Animal Plant Health Inspection Service

FACILITY: **Moore Air Force Base**
McAllen, Texas

STATUS: Non-Docket. Non-NPL

NARRATIVE: APHIS initiated an investigation into the historical waste disposal activities at Moore Air Base, located near McAllen, Texas. The facility was a World War II Army Air Corps facility, constructed in 1941. Management of the property was transferred to APHIS approximately 40 years ago. APHIS has used the facility for a number of program activities, including pesticide bait formulation, and aerial activity. One activity in 1962, may have resulted in water contamination in a well. Former program activities may have resulted in the burial of other materials which may effect the environment. A preliminary site assessment of the entire facility will be performed in FY 2000 to locate burial sites, and identify other environmental impacts which may be present on the property.

FY 99 WORK: Ongoing work on the assessment.

FACILITY: **Tick Eradication Program Facilities**
Cameron, Val Verde, Zapata, Starr, Hidalgo, and Maverick Counties, Texas

STATUS: Non-docket. Non-NPL

NARRATIVE: APHIS, the Texas Animal Health Commission, and other local agencies and cooperators have operated Tick Erradication Programs in the State of Texas. An investigation was initiated to assess the environmental impact of the pesticide waste materials being generated, which are disposed on site following biological treatment in waste lagoons. The investigation also included an assessment of potential hazardous substance contamination from past activities. APHIS, the State of Texas, and Maverick County have begun negotiations into the cleanup of the one site which dates back to the early 1940's. Funding has been requested to perform site assessments at various locations, beginning in FY 2001.

FY 99 WORK: Ongoing work on the assessment.

Agricultural Research Service

FACILITY: **Beltsville Agricultural Research Center (BARC)**
Beltsville, Maryland

STATUS: Docket. National Priorities List (NPL) (Federal). (Listed on first docket in 1986 and listed on the NPL in May 1994.)

NARRATIVE: A $45,251 contract for a preliminary assessment (PA) of the entire location, plus the first phase of an Environmental Site Assessment (ESA) of a parcel of land to be sold to the Washington Metropolitan Area Transit Authority (Biodegradable Site) was awarded in April 1990. Forty-four disposal sites with the potential to contain hazardous substances/waste were identified for evaluation. Sixteen of these sites had a site inspection (SI) performed. The Environmental Protection Agency (EPA), through aerial photographs, identified what it considers 92 areas of concern. The 92 areas of concern included the 44 sites identified in the PA.

A PA/SI report and remediation of a small site was completed in May 1991 at a final cost of $136,958. The PA/SI report was submitted to EPA and the State of Maryland in June 1991. The Hazard Ranking System (HRS) Preliminary Ranking Evaluation score (PREscore) range for BARC was 41.54 to 52.46, suggesting the need for NPL listing and remedial action under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

In August 1991, a $362,416 contract was awarded for a second phase ESA of the Biodegradable Site to determine the extent of contamination and remediation required to meet General Services Administration and CERCLA property transfer regulations.

A contract was awarded on September 30, 1992, to remediate the Biodegradable Site. The award was for $6.637 million. The contractor completed excavation and backfilling of the site and demobilized
on February 1, 1994. The contractor submitted a delay claim of $1.269 million and a claim for additional quantities of $1.741 million
in association with the cleanup of the Biodegradable Site. On August 22, 1995, the Agricultural Research Service (ARS),

Facilities Contracts Branch (FCB), modified the contract in order to pay the contractor
$1.290 million for the undisputed portion of the claim. In 1996, FCB settled the disputed portion of the contract claim for $574,606, bringing the total amount spent for this remediation to $8.504 million.

On May 31, 1994, BARC was listed on the NPL with an HRS score of 50.0 because of contaminated groundwater and a potential release to surface water from the Biodegradable Site.
An Indefinite Quantity Contract for investigative and remedial services was awarded on August 25, 1995. The first Task Order (FY-95: $360,253; FY-96: $59,044) was issued to provide aerial photo analysis, field reconnaissance, and develop a Desktop Evaluation Workplan. A second Task Order ($367,399) was issued to sample existing monitoring wells and install new monitoring wells at the low-level radiation burial site.

Task Order 4 was awarded (FY 96: $131,178) to implement the Desktop Evaluation Workplan.

During the week of September 18-21, 1995, representatives from the Agency for Toxic Substances and Disease Registry (ATSDR) conducted a site review as part of the NPL process. The ATSDR concluded that BARC was a low priority for a public health assessment, but they were concerned about the bottles and debris at several Areas of Concern (AOC's). The ATSDR recommended, and EPA and the State of Maryland requested, the removal of bottles and debris spread over up to 70 acres at one of the sites. In response, ARS awarded Task Order 5 ($436,850) to conduct the debris removal at four AOC's.

Task Order 6 was awarded ($611,753) to complete the remedial investigation/feasibility study (RI/FS) at the Biodegradable Site. Task Order 7 was awarded ($166,991) to develop a Site Management Plan and an information repository for administrative records. Task Order 8 was awarded ($309,325) to begin the Site Screening Process (SSP) at three sites. This Task Order was later modified to add two sites in the process at an additional cost of $136,767.

FY 1997 WORK: In FY 1997, Task Order 2 was modified ($129,041) to include additional rounds of sampling at the low-level radiation burial site

and the preparation of a Master Risk Assessment Plan used to guide work throughout the RI/FS process. Task Order 4 was modified ($37,130) to account for the increased number of AOC's identified through the Desktop Data Collection process. Task Order 8 was expanded ($1.928 million) to address an additional 33 AOC's. Task Order 5 was modified ($37,313) to conduct debris removal at 20 additional AOC's. Also, through an interagency agreement with the Department of Energy's HAZWRAP program, ARS obligated $503,000 to conduct additional debris removals at 20 AOC's.

Analysis of aerial photographs, field reconnaissance, and desktop data evaluation were completed. The total number of AOC's, as identified by the earlier PA work, aerial photos, and field reconnaissance, increased to 166.

An additional eight monitoring wells were installed and sampled at the low-level radiation burial site. Results indicated a release of chloroform and several radio nuclides to the ground water.

FY 1998 WORK: In FY 1998, Task Order 7 was modified ($24,209) to account for additional funding required for the scanning of documents needed for the information repository.

Task Order 17 was awarded ($999,911) to conduct an RI/FS at a 30-acre sanitary landfill operated by the city of College Park and to conduct site screenings at an additional five AOC's.

In May 1998, after 5 years of negotiations (with Office of the General Counsel assistance) ARS entered into a Federal Facilities Agreement (FFA) with EPA. The FFA provides the framework for ARS work under CERCLA. The first Site Management Plan required by the agreement was submitted on June 15, 1998.

In December 1998, EPA approved the Desktop Data Collection Report that evaluated all 166 AOC's and recommended that 106 AOC's be eliminated from further consideration under CERCLA, leaving 59 AOC's to be studied further under the SSP and/or RI/FS.

Also in 1998, field work was completed for site screenings at the first 12 AOC's. Surface debris removals were completed at 44 AOC's.

FY 1999 WORK: Since the low-level radiation burial site was operated under a license with the Nuclear Regulatory Commission (NRC) and contains mixed low-level radioactive hazardous waste (mixed waste) that is also regulated by EPA, both agencies have regulatory oversight of this AOC. Based upon discussions with both agencies, it was agreed that a non-time critical removal action could address both NRC decommissioning requirements, as well as eliminating further release of hazardous substances. Therefore, Task Order 2 was modified ($107,879) to prepare an Engineering Evaluation/Cost Analysis (EE/CA), with comments to be provided by both the NRC and the EPA.

Task Order 17 was modified ($467,886) to initiate Geographic Information System (GIS) work and to complete the SSP at the remaining AOC's. Task Order 7 was modified ($87,331) to complete additional modifications to the Site Management Plan and to update the information repository. Task Order 19 was awarded ($706,873) to conduct an RI/FS at the Chemical Disposal Pits (BARC 12), an area where chemicals were known to have been disposed in the 1950's and 1960's.

Field work was completed at an additional 26 AOC's in 1998. A draft SSP report was submitted to EPA for comment. However, due to changing EPA policies concerning ecological risks, this document was not finalized. Further discussions with EPA continued through 1999.

A draft EE/CA for the low-level radiation burial site was submitted to the NRC and EPA for review. EPA had no comments, and the NRC's comments were pending.

In March 13-15, 1999, ATSDR returned to conduct a public health assessment at BARC. ATSDR collected all of the data and is currently preparing the public health assessment.

COSTS: The total amount spent on the efforts completed/contracted up through FY 1996 (PA/SI, Phase I and II ESA, remediation of a small site and the Biodegradable Site, RI/FS, installing/sampling wells at the radiation burial site, community relations, aerial photo analysis, field reconnaissance, desktop data evaluation, site screening, removals, and community relations) was $11.687 million. The total amount spent from FY 1997 to date totals $5.287 million, for a total spent to date of $16.975 million. It is

anticipated that over the next 5 years, an additional $3.900 million will be needed to complete the RI/FS at the remaining AOC's. Another $17.250 will be required to complete removals and implement selected remedial actions.

FACILITY: **U.S. National Arboretum**
Washington, D.C.

STATUS: Docket. Non-NPL. (Listed on the July 1992 docket.) ARS is currently preparing a revised SI report in response to EPA comments.

NARRATIVE: A contract for a PA of the entire location and optional SI was awarded in April 1990 to evaluate the possibility of releases of hazardous substances/ wastes at the site and in support of a major project to restore an historical site. In August 1990, a $56,712 contract modification was issued to exercise the SI option.

An SI report, HRS PREscore of 8.47 to 8.77, and a "No Further Remedial Action Planned under Superfund (NFRAPS)" recommendation for this facility were submitted to EPA and the District of Columbia (D.C.) in
June 1991. EPA requested additional sampling of the Arboretum's China Valley site and to submit the data as an addendum to the PA/SI. The sampling report was submitted to EPA on March 27, 1995. In January 1997, EPA developed a PREscore for the site of 42.24 based on only the 1991 PA/SI.

Limited response actions, including surface cleanup, under D.C.'s authority may be required.

FY 1997 WORK: No actions were taken during this fiscal year.

FY 1998 WORK: In September 1998, EPA sent a letter to the location requesting further information related to the PA/SI.

FY 1999 WORK: In February 1999, ARS contracted for collection of additional samples and information to compute a revised HRS PREscore.

FACILITY: **Plant Germplasm Quarantine Facility**

Glenn Dale, Maryland

STATUS: Docket. Non-NPL. (Listed on the February 1993 docket.) ARS is working on revising the draft SI report.

NARRATIVE: Onsite disposal of small quantities of miscellaneous chemical and pesticide wastes was suspected so a PA was performed. A PA report, HRS PREscore of 10.78, and an NFRAPS recommendation were submitted to EPA and the State of Maryland in August 1991. State review has not been completed. On April 30, 1996, EPA shared their contractor's PREscore sheets with ARS. The PREscore for the facility was determined to be 31.95 and was based on information from the PA and some very limited sampling conducted as a result of demolition work. The contractor recommended further sampling.

FY 1997 WORK: In 1997, ARS awarded a Task Order (13) for the characterization of the soils left following the demolition of buildings. In August 1997, EPA submitted a request that an SI be conducted at the location.

FY 1998 WORK: In 1998, ARS awarded a Task Order (16) to conduct an SI at the location.

ARS modified Task Order (13) to address EPA comments on the characterization and to conduct removal of the soils.

FY 1999 WORK: In 1999, ARS completed the field work for soils characterization and SI. The draft characterization report was submitted to EPA and to the State of Maryland. In 1999, ARS modified the Task Order for an SI to include additional sampling to further refine the HRS PREscore.

FACILITY: **Avian Disease and Oncology Laboratory**
East Lansing, Michigan

STATUS: Docket. Non-NPL. (Listed on the November 1988 docket.) A PA was completed. HRS PREscore of 50. Removal project completed with State oversight. ARS is working with the State to close the site with a NFRAPS designation.

NARRATIVE: Miscellaneous laboratory wastes were discarded in a floorless concrete vault. In addition, laboratory wastes were discharged to a drywell. Work on a contract for PA/SI services awarded in 1989 was delayed by difficulties in negotiating a work plan with EPA and the State of Michigan until 1991.

High concentrations of mercury, up to 1500 parts per million, and other contaminants were found in the vault and underlying soils. Ground water did not appear to be affected. A PA report and HRS PREscore of 50 were submitted to EPA and the State in April 1992. Although no imminent hazard was present, the relatively high HRS reflects the combined effects of elevated mercury levels in soil, shallow ground water, interconnectedness of the uppermost and drinking water aquifers, and the large population using ground water as a source of drinking water within 4 miles of the site.

To expedite site cleanup, a contract was awarded in September 1992 to remove the vault and associated contamination, to ensure ground water had not been impacted, and to study other potential contaminated sites. A remediation report was issued in January 1994.

In July 1994, ARS requested from EPA and the State a status of their review of the PA report. ARS has not received a determination to date.

Accurate location of the drywell was identified in September 1994. Samples of the drywell were collected in July 1995. Sample results indicate no contamination is present. The State has suggested they will propose a NFRAPS designation for the location. EPA has verbally advised ARS to work with the State due to other priorities. In September 1996, it was learned that the State has not completed their review due to higher priorities.

A report of sample results for the drywell investigation was submitted to the State and EPA in April 1996. Since data in the report is negative, ARS recommended a NFRAPS designation. EPA advises that we work with the State for resolution of the site.

FY 1997 WORK: ARS contacted the Michigan Department of Environmental Quality (MDEQ) periodically through FY-97 in order to encourage them to complete their reviews of the submitted reports and ARS'

request for closure with a NFRAPS designation needed at the Avian Disease and Oncology Laboratory.

FY 1998 WORK: In July 1998, MDEQ advised ARS that MDEQ would require resubmittal of the data in a newly modified format before they would review the case for closure. ARS developed a proposal that would comply with the MDEQ revised reporting requirements and solicited a cost estimate to do this work.

FY 1999 WORK: ARS compiled the data previously submitted to MDEQ into a new format as required by MDEQ. This report was submitted to MDEQ in May 1999, and it again requested site closure.

FACILITY: **National Animal Disease Center**
Ames, Iowa

STATUS: Docket. Non-NPL. (Listed on the November 1988 docket.) ARS is working with the Department of Agriculture's (USDA's) Radiation Safety Staff to develop a removal action plan for a mixed hazardous waste burial site.

NARRATIVE: Miscellaneous low-level radioactive/hazardous mixed wastes were buried at a site on this location. A contract for a PA of the entire location and optional SI services was awarded in May 1990. A contract modification for environmental sampling of one pesticide disposal site at the location was issued in September 1990.

A PA report, HRS PREscore of 10.34, and a NFRAPS recommendation were submitted to EPA and the State of Iowa in April 1991. In January 1993, and February 1994, additional information was provided in response to EPA comments received in late 1991.

EPA outlined deficiencies in the PA report in March 1995. They provided a recommendation for permanent ground water monitoring of the radioactive/hazardous mixed-waste burial site. In response to EPA's deficiency list, funds were obligated in FY-95 for soil and ground water sampling adjacent to the sheep dip site and the radioactive/hazardous mixed-waste burial site.

Additional soil borings/monitoring well installation in the northwest portion of the property at the request of EPA was

completed. Data obtained was combined with data from the FY-95 effort and submitted to the State and EPA in March 1996.

FY 1997 WORK: Results of annual sampling of the monitoring wells around the burial site continued to show that no contamination has leached from the site.

FY 1998 WORK: The monitoring well data was submitted to EPA and the Iowa Department of Natural Resources. Even though the data shows no leaching from the site, EPA would like to see this mixed hazardous waste removed.

FY 1999 WORK: The location concurs with the concept of removing the waste, and is working with the USDA Radiation Safety Staff, through their interagency agreement with the Department of Defense, in order to develop a removal action proposal and cost estimate.

FACILITY: **Meat Animal Research Center**
Clay Center, Nebraska

STATUS: Docket. Non-NPL. (Listed on the February and November 1988 dockets.) SI submitted for review by EPA and the State on November 30, 1994. The HRS PREscore is 3.73.

NARRATIVE: This location is a formerly used Defense site, previously a Navy facility, and is currently a generator of hazardous waste. In addition, the location has an incinerator, lagoon, and a land disposal site previously used by ARS for burial of low-level radioactive animal wastes. The Navy is in the process of remediating several of its inactive sites. A contract for a PA covering the entire location and optional SI was awarded by ARS in May 1990. A contract modification was issued in October 1990 for HRS scoring of the location using the new HRS.

A PA report, HRS PREscore of 6.0, and a NFRAPS recommendation were submitted to EPA and the State of Nebraska in February 1991.

In June 1992, the EPA disagreed with the HRS PREscore of 6.0 and said it expected the HRS score to exceed 28.5. EPA requested an SI of the radioactive waste, wastewater, landfill, and pesticide

washdown areas. On November 30, 1994, the SI report was submitted to EPA and the State. The revised HRS score is 3.73.

The Resource Conservation and Recovery Act closure of a waste oil tank and cleanup of associated soil contamination were completed, and a closure report was submitted to EPA in November 1994. The State approved the closure on March 16, 1995. EPA has deferred to the State. No further action is anticipated.

FY 97-99 WORK: No actions were taken by ARS during these fiscal years. ARS is still waiting for the EPA's and the State's response. In December 1999, the NRC delisted the animal waste burial site from their list of potential radioactive waste disposal sites.

FACILITY: **Aquatic Weed Research Facility**
Davis, California

STATUS: Non-Docket. Non-NPL. (Listed on the November 1988 docket.) ARS received notification from EPA that no further action is required in 1994. However, in subsequent docket updates, the facility was not included in the list of NFRAPS facilities.

NARRATIVE: Small quantities of miscellaneous chemical and pesticide wastes were disposed in two holding ponds (surface impoundments) at this location.
A contract for a hydrogeological investigation under State of California requirements and a PA covering the entire location was awarded in
June 1990. A PA report, HRS PREscore of 9.17, and a NFRAPS recommendation were submitted to EPA and the State in May 1991.
The State concurred with the NFRAPS recommendation in July 1991. EPA concurred with the NFRAPS recommendation by letter on May 20, 1994. No further action is required.

FACILITY: **U.S. Cotton Research Station**

Shafter, California

STATUS: Docket. Non-NPL. (Listed on the February 1988 docket.) On May 23, 1994, EPA notified ARS that this facility would be placed in "Site Evaluation Accomplished" status. However, in subsequent docket updates, the facility was not included in the list of NFRAPS facilities.

NARRATIVE: Location pesticide wastes were disposed in a drywell. A contract was awarded to complete a two-phase geotechnical investigation under State of California requirements and an SI in March 1990. A contract modification was issued to cover an increased Phase II scope due to an unexpected distribution of contaminants.

In 1991, the second phase of work was undertaken to expand knowledge of the vertical and horizontal extent of contamination, including construction of a monitoring well. Site sampling has confirmed the existence of pesticide contamination of soil up to 80 feet below ground surface. Contaminants in ground water are not due to operations at this location.

On May 13, 1992, the PA/SI reports were submitted to EPA and the State for review.

In June 1992, the State notified the Agency that formal closure of drywell #1 would be required. The State also requested further investigation of drywells #2 and #5, a leachfield, and a percolation pond. This work was completed in November 1992. Initial results indicated only the percolation pond to be of concern. Further sampling of the percolation pond demonstrated that no remedial activity is required.

ARS met with Kern County, the actual property owner, and the State to discuss options for closure of drywell #1 under State authority. Capping the drywell was presented as the most appropriate method of closure. On April 15, 1994, Kern County filed a tort claim against ARS for contamination of the drywell. ARS met again with Kern County and the State to discuss closure of the drywell. It was decided that further characterization of the site is required to determine if dioxins are present in association with the silvex indicated from prior sampling; the result to be used to determine the risk posed by the site. Sampling was completed in April 1995. Results indicated that there are no dioxins present.

The State Regional Water Quality Control Board has determined that, since there are no dioxins present and ground water is hundreds of feet deep, the site does not pose any threat to ground water.

Test results, along with additional sampling results from the top 3 inches of soil, were submitted to the ATSDR for completion of a health risk assessment. The surface samples showed low levels of some pesticides. On September 27, 1995, the ATSDR notified ARS that their assessment has been completed, and the site does not pose a threat to public health.

On June 10, 1996, the California Regional Water Quality Control Board reviewed the report for the April 1995 sampling for dioxins/silvex and concluded that the site does not pose a threat to ground water. A closure plan which calls for capping the drywell has been submitted to and approved by EPA, Region 9.

FY 1997-1999 WORK: The closure plan has been presented to Kern County, and they have concurred with the plan under the condition they would not be held liable as a Potential Responsible Party under CERCLA. In return for this release of liability, the county will drop the tort claim. The Justice Department must approve the agreement because of the release of liability, and the response costs to date have exceeded $500,000. The Office of the General Counsel is working the issue with the Justice Department.

FACILITY: **Horticultural Research Laboratory**
Fresno, California

STATUS: Docket. Non-NPL. (Listed on the November 1988 docket.) The State has accepted the NFRAPS recommendation from ARS. On November 2, 1998, ARS received notification from EPA that no further action is required.

NARRATIVE: Laboratory wastes were disposed in septic systems and drywells at the location. The Regional Water Quality Control Board required a hydro-geological survey. A two-phase contract to perform the hydrogeological survey and prepare a PA covering the entire location was awarded in March 1990. The hydrogeological survey found contamination in only one drywell, and that was below

regulatory concern. Ground water was not impacted by site operations. A PA report, HRS PREscore of 6.5, and a NFRAPS recommendation were submitted to EPA and the State of California in January 1992.

On August 12, 1992, the State concurred with the NFRAPS recommendation. On November 2, 1998, ARS received notification from EPA that no further action is required.

FY 1997-1999 WORK: No actions were taken during these fiscal years.

FACILITY: **Plum Island Animal Disease Center**
Greenport, New York

STATUS: Docket. Non-NPL. (Listed on the February 1988 docket.) An SI was submitted to EPA for review and comment in July 1996. The HRS score was 50.23. Additional sampling for the SI was completed in 1999. The data is currently being compiled for submittal of a new SI and HRS score.

NARRATIVE: ARS performed a PA in 1988 and made a NFRAPS recommendation. In 1990, EPA and the State concurred with the NFRAPS recommendation of the PA.

However, recognizing deficiencies in the original PA, ARS contracted for a new PA. The PA was completed and sent to the State and EPA for review on September 28, 1994. The HRS PREscore was 54.

A contract to perform an SI was awarded in September 1994. The SI was completed in June 1996. The final HRS was 50.23 based on a score of 100 for air, 9.6 for ground water, and 0 for surface water and soil pathways. The SI was submitted to EPA for comment in July 1996.

FY 1997 WORK: None--waiting for feedback from EPA.

FY 1998 WORK: EPA provided comments to the June 1996 SI. Based on the comments received and their request for additional information, ARS decided to prepare a more comprehensive SI for submittal.

FY 1999 WORK: A contract to perform the SI was awarded in December 1998. Historical Aerial Photography Analysis, a Quality Assurance Project Plan, a former Army Building Study, and the Health and Safety Plan were issued in August 1999. Other SI work is ongoing.

FACILITY: **Eastern Regional Research Center**
Wyndmoor, Pennsylvania

STATUS: Docket. Non-NPL. (Listed on the February 1988 docket.)

NARRATIVE: The location is a generator of hazardous waste. A PA and NFRAPS recommendation were submitted to EPA and the State in 1988. In 1989, a shed used to store paints and solvents was demolished. Very low levels of solvents were detected in the soil. The EPA requested additional information in 1989. The concrete slab and underlying contaminated soil were removed, and additional information on the cleanup was submitted to EPA both in 1990 and in 1991.

EPA and the State of Pennsylvania are reviewing the PA. On August 9, 1994, EPA sent a letter to ARS stating they are in the process of reviewing the PA, but did not provide a date when they expected their evaluation to be completed. EPA was contacted in December 1995 to determine the status. ARS was told that the PA is still under review. EPA could not provide an anticipated completion date.

FY 1997 WORK: EPA, Region 3, was contacted on January 15 and on August 14, 1997, to determine the status of their review.

FY 1998 WORK: None

FY 1999 WORK: EPA, Region 3, was again contacted. No reply has been received to date.

FACILITY: **USDA Appalachian Soil and Water Research Lab**
Beaver, West Virginia

STATUS: Docket. Non-NPL. (Listed on the September 1991 docket.) On August 9, 1994, ARS received a letter from EPA, Region 3, stating

that this location was removed from the docket. However, in subsequent docket updates, the facility was not included on the list of NFRAPS facilities.

NARRATIVE: Pesticides were released into the environment from a storage trailer.
The storage trailer and surrounding soils and debris were removed in August 1991, and a cleanup report was submitted to EPA. Regional EPA is using the cleanup report submitted in 1991 and determined that a PA or HRS scoring package for this site is not required.

On August 9, 1994, ARS received a letter from the EPA stating that the storage trailer has been given a NFRAPS status. However, in subsequent docket updates, the facility was not included in the list of NFRAPS facilities. ARS is continuing contact with EPA, Region 3, to determine why this location was not included in the deletion list. No further action is expected at this site.

FY 1997 WORK: EPA, Region 3, was contacted on January 15 and August 14, 1997, to determine the status of their review.

FY 1998 WORK: None

FY 1999 WORK: EPA, Region 3, was contacted. There is still no reply to date.

FACILITY: **Russell Research Center**
Athens, Georgia

STATUS: Docket. Non-NPL. (Listed on the April 1995 docket.)

NARRATIVE: Miscellaneous acids, chemicals, and solvents were disposed of in a "pit." In 1993 a corrective action plan was completed, and contaminated soils were removed.

ARS submitted a final report to the State of Georgia recommending that no further action is required to be taken at the site. On May 2, 1994, the State concurred with the findings.

This facility was included in the April 11, 1995, Federal Register notice as a proposed addition to the docket. However, a PA should not be required since the cleanup has already been completed, and

the State has concurred that no further action is required. ARS has contacted EPA to recommend a NFRAPS designation. At this time, a determination has not been made by EPA.

FY 1997-1999 WORK: None

FACILITY: **Coastal Plains Experiment Station**
Tifton, Georgia

STATUS: Docket. Non-NPL. (Listed on the April 1995 docket.)

NARRATIVE: Miscellaneous chemicals were reportedly disposed to the land surface. In 1991, ARS consulted with the regional EPA and the State of Georgia and, with EPA assistance, collected soil and ground water samples for analysis from the suspect area. Additional sampling was conducted in FY-93 and submitted to the State with a recommendation that no further action be taken. On June 28, 1993, the State concurred with the findings.

This facility was included in the April 11, 1995, Federal Register notice as a proposed addition to the docket. However, a PA report should not be required since the cleanup has already been completed, and the State has concurred that a NFRAPS designation is required. ARS has contacted EPA to recommend a NFRAPS designation. At this time, a determination has not been made by EPA.

FY 1997-1999 WORK: None

COMMODITY CREDIT CORPORATION (CCC)

The CCC's hazardous materials sites are not owned or currently operated by the corporation. Therefore, these sites are not considered federal facilities under CERCLA. They are included under this report since they are being investigated and cleaned up under CERCLA. The sites are grain storage bins where carbon tetrachloride was commonly used as a fumigant on the grain. Since many of these bins are unlined, carbon tetrachloride may have leached down into ground water and drinking water supplies in the affected communities.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Adams, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: The town has an ample, clean drinking water supply from two public wells. Carbon tetrachloride was detected in a third well and it was removed from service in 1991. CCC conducted a data evaluation and site visit with town officials in FY 1995. EPA conducted a Preliminary Assessment (PA) and Site Screening Inspection in FY 1997. EPA conducted an Expanded Site Investigation (SI) in FY 1999. The contaminant source has not been identified. Excessive nitrates, not realated to grain storage activities, led the town to install a reverse osmosis treatment system on its public water supply in 1991.

FY 1999 WORK: CCC initiated site characterization activities in late FY 1999. All previous investigations were reviewed and the data critically analyzed. Field characterization activities will be conducted in FY 2000.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Agenda, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: Both of Agenda's public water supply wells were found to be contaminated with carbon tetrachloride. The first indication of contamination was in 1987. An air stripper treatment system was installed in 1994 by the Kansas Department of Health and Environment (KDHE). The system effectively removed carbon tetrachloride from the community's distribution system. The town

connected to the Republic County Rural Water District (RWD) #2 in 1996 and discontinued use of the two wells. KDHE then disconnected the air stripper system. CCC conducted site characterization activities in FY 1996. CCC conducted extended water level monitoring and annual groundwater sampling at the site in FY 1997 and FY 1998.

FY 1999 WORK: CCC issued a report on the extended monitoring program for the site that concluded that the groundwater contaminated with carbon tetrachloride has become almost stagnant since pumping of the village's former public wells was discontinued in 1996. Based on the findings contained in the report, continued annual monitoring or the investigation of potential aquifer restoration scenarios for the site was determined to be technically unwarranted. However, one additional round of groundwater samples were collected. The results of this follow-up sampling indicated contaminant levels were below the MCL and that there are no private wells downgradient of the town that could be impacted by the contamination. The results of the FY 1999 follow-up sampling confirmed the findings of the extended monitoring program and no further monitoring or remedial investigations are planned for the site. CCC work at the site is currently under review by KDHE as part of an intergovernmental agreement that was entered into by CCC and KDHE in the beginning of FY 2000. CCC also entered into a reimbursable agreement with KDHE, providing reimbursement for the air stripper system during the time it was in use at the site.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Agra, Kansas

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Two of Agra's public water supply wells have been found to be contaminated with carbon tetrachloride. The first indication of contamination was in 1985. Both wells have been removed from service as drinking water sources. CCC evaluated the town's drinking water supply in FY 1995 and concluded that Agra received an adequate supply of safe potable water from its three remaining public supply wells. In FY 1995, CCC initiated site characterization activities. These activities were completed in FY 1996 and a feasibility study (FS) was completed in FY 1997. The

FS recommended no further action because risks posed were within EPA-established limits and no potential negative environmental impacts would be expected.

FY 1999 WORK: None. CCC work at the site is currently under review by KDHE as part of an intergovernmental agreement that was entered into by CCC and KDHE in the beginning of FY 2000.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Aurora, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: The town has an ample, clean drinking water supply from three public wells. A fourth well had excessive levels of carbon tetrachloride detected in 1982. The Nebraska Department of Environmental Quality (NDEQ) and EPA conducted SIs at the site. CCC conducted a data evaluation of the previous investigations and made a site visit with town officials in FY 1994. The evaluation determined that contamination levels in the affected well decreased steadily during the 1980's and also found that since 1990, the well has been tested over a dozen times with only one sampling event resulting in any contaminant detection. The contamination source has not been identified. The town also has experienced other volatile organic compound problems with its water supply.

FY 1999 WORK: None.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Bendena, Kansas

STATUS: Non-Docket. Non-NPL

NARRATIVE: The unincorporated town's lone public water supply well has a long history of nitrate and carbon tetrachloride contamination. The well was constructed in the early 1900's. As early as the mid 1970s, high concentrations of nitrate were detected in the well. Carbon tetrachloride was detected in 1985. As a result, KDHE initiated a monitoring program of the well. The town connected to the Doniphan County RWD #5 in 1988. Shortly thereafter, KDHE

connected an air stripper treatment system to the town's well. The modified system operated by removing carbon tetrachloride from the town's well, then blending the nitrate-bearing well water with nitrate-free water from RWD #5 to bring the nitrate concentrations below the MCL. Through the early 1990s, the nitrate concentrations continued to rise in the town's well. Because of these increasing concentrations, the percentage of water pumped from the town's well and blended with RWD #5 was continuously decreased. By the mid 1990's, the community decided to shut down its well because nitrate levels had made blending economically impractical. Since that time, the town has purchased 100% of its drinking water from RWD #5. The air stripper has been disconnected from the town's well. KDHE conducted a PA in 1987 and a Site Inspection in 1988. KDHE conducted a comprehensive investigation in FY 1998. CCC conducted a data analysis and site visit with town officials in preparation for site characterization work in FY 1998 and a work plan was developed. However, at the request of KDHE, CCC has discontinued site characterization work at the site. The carbon tetrachloride contaminant source has not been identified. KDHE initiated a nitrate pilot project in FY 1998, in efforts to effectively reduce nitrate concentrations in the public well to within acceptable levels. The town currently continues to receive all of its drinking water from RWD #5.

FY 1999 WORK: None.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Blair, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: Carbon tetrachloride was detected in a private drinking water well in FY 1995 near the former CCC site, which was located about two miles south of town. CCC is providing the affected residence with alternate water.

FY 1999 WORK: None.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Bruno, Nebraska

STATUS: Non-Docket. NPL (Non-Federal) Site. (Listed on NPL in July 1996)

NARRATIVE: Bruno's water supply was found to be contaminated with carbon tetrachloride in 1984. EPA identified CCC and several other entities as PRPs. The contaminated public wells were replaced in 1990 with new wells that supply the town with a sufficient, potable drinking water supply. These wells were primarily funded by a Community Development Block Grant. The village secured a loan for the remainder of the costs of the new wells. CCC initiated a settlement agreement with the village, in which CCC provided funding to the village to pay off the entire loan amount in FY 1991. EPA conducted a PA in 1987, a PRP Search in 1988, and an SI in 1989. EPA proposed the site for NPL listing in 1992. In FY 1994, CCC initiated site characterization activities. These activities were completed in FY 1995. A draft interim feasibility study was developed in FY 1996 and, after review and comment by EPA, was finalized. An interim FS was developed due to the unique characteristics of the groundwater in the Bruno area. The site has multiple competing processes affecting the groundwater and, ultimately, the contaminant plume migration. Therefore, CCC undertook a long-term monitoring program at the site to track seasonal variations in groundwater movement and gather additional data required to quantify the effects of the various processes on plume migration. After completion of the monitoring program, a proposed FS was developed by CCC in FY 1998. Subsequently, as lead agency for the site, EPA used the data from the CCC studies in developing the final FS for the site, which was issued later in FY 1998. Also in FY 1998, EPA published a Proposed Plan, held a public meeting regarding the plan with the village, and issued a ROD that called for installation of a pump-and-treat remediation system. In the ROD, EPA stated that its selected remedy would restore the aquifer to levels below the MCL in approximately 18 years. The ROD also stated that CCC's site characterization activities met the NCP requirements for an RI. The CCC had conducted all required community involvement activities during the RI phase of work. As lead agency, EPA assumed all community involvement responsibilities after completion of the RI.

FY 1999 WORK: CCC continued to work with EPA regarding implementation of its selected remedy.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Canada, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: KDHE identified carbon tetrachloride contamination in two private drinking water wells in 1997. CCC then provided an alternate water supply to one of the affected residences. The other residence declined CCC's offer of providing alternate water. KDHE conducted a pre-CERCLIS Site Reconnaissance and Evaluation (SRE) in FY 1998, identifying CCC as a PRP. KDHE conducted a PA/Site Screening Investigation (SSI) in FY 1999.

FY 1999 WORK: CCC initiated a site characterization data evaluation. After reviewing the KDHE investigations, CCC concluded that site characterization was not warranted due to the fact that the SSI misidentified the location of the former CCC facility. The contaminant source identified in the SSI is not a former CCC facility but, rather, a privately-owned grain facility. CCC provided this information to KDHE. The site is scheduled to be reviewed by KDHE in FY 2000 as part of an intergovernmental agreement that was entered into by CCC and KDHE in the beginning of FY 2000.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Centralia, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: KDHE identified carbon tetrachloride contamination in two private drinking water wells in FY 1998. CCC is providing residents with alternative water. KDHE initiated a Site Screening Assessment in FY 1999, which has not yet been provided to CCC.

FY 1999 WORK: None.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Ceresco, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: The town has an ample, clean water supply from two new public wells located about two miles north of town. Carbon tetrachloride was first detected in 1983, in a sample collected from the municipal distribution system. The concentration level was less than the MCL. The older public wells that were serving the community at that time had a long history of excessive nitrate levels. Due to the nitrate problems, the village connected the two new wells to the distribution system in 1989. Since that time, these newer wells have provided the majority of the community's drinking water. The older wells were occasionally used to supplement the village's water supply, when demand was highest. The older wells were sampled in 1990, revealing the presence of carbon tetrachloride. NDEQ began regular monitoring of the wells. EPA conducted a PA in 1991 and an SI in 1993. During these investigations and in subsequent well testing conducted in 1993, the older wells continually tested below the MCL for carbon tetrachloride. NDEQ issued the village a high-nitrate notice in 1993, due to the excessive nitrate levels in these older wells. The village then removed the wells from active status and had them re-designated as emergency use only. The CCC conducted a data evaluation of these previous investigations and also conducted a site visit in FY 1997 in the initiation of site characterization activities. Site characterization field activities were conducted in FY 1998.

FY 1999 WORK: Site characterization work was completed and an FS was also conducted. The FS recommended no further action. Simulations of contaminant migration did not support the need for groundwater remediation. The only wells potentially affected by the contaminant plume are the two older public wells that were shut down because of excessive nitrate contamination. Due to the nitrate contamination, the village has no plans to reactivate these wells at this time. The FS concluded that if at some point in the future the village decided to reactivate these wells, contaminant concentrations would be expected to be below the MCL. The two older wells are screened in the upper and lower aquifers. Modeling indicated that any water that would be drawn from the low contaminant levels in the upper aquifer would be mixed with and diluted by the quantities produced from the lower aquifer. No further action is recommended beyond monitoring of the older public wells, should they be reactivated in the future. These findings were presented to the village board, which concurred with the no further action recommendation.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Clay Center, Nebraska

STATUS: Non-Docket. Non-NPL.

NARRATIVE: One of Clay Center's public water supply wells was found to be contaminated with carbon tetrachloride in 1988. The well, which also had a history of high nitrate concentrations, has been removed from service. The community currently receives ample, clean drinking water from two other public wells and an older well that serves as a backup. EPA conducted a PA in 1989 and an SI in 1990. In FY 1995, EPA completed a Site Assessment Prioritization Report for the site. CCC assumed responsibility for further investigations at the site and conducted a data evaluation in FY 1996 that consisted of a review of the previous investigations and other data, and a site visit with village officials. CCC then initiated site characterization activities in FY 1996. These activities were completed in FY 1997 and an FS was completed in FY 1998, which recommended natural attenuation with monitoring. The FS included conceptual and numerical modeling of groundwater flow and contaminant transport and a risk assessment. It was concluded that there was no risk to residents of the community because they are all connected to the public water supply. Results also showed that there were no unacceptable risk levels to any current residences located outside of town nor to hypothetical future residents outside of town boundaries who may opt to drill a private well down gradient from the plume. A monitoring program was initiated in FY 1998, with the objective of monitoring the plume's position to confirm its predicted behavior. The FS stated that if changes in the plume configuration, migration pattern, or population occur, the natural attenuation alternative would be reevaluated. Excessive nitrate levels have also been detected in the area outside of town down gradient from the plume. Under these conditions, the groundwater in this area is unlikely to ever be usable as a future source of drinking water.

FY 1999 WORK: Monitoring continued in FY 1999 and was scheduled to be completed in FY 2000.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Cortland, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: Carbon tetrachloride was initially detected in two of the town's three public water supply wells in 1983. EPA conducted a PA at the site in 1987 and a limited SI, also in 1987. CCC conducted a data evaluation and site visit with village officials in FY 1996. The evaluation found that the previous investigations did not identify a contaminant source area and that the contaminated wells have tested below the MCL since the late 1980's. The wells have continued to be sampled by the State on an annual basis.

FY 1999 WORK: None.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Craig, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: During a Site Screening Assessment conducted in FY 1997, EPA identified carbon tetrachloride contamination in a private drinking water well located about ½ mile from the town. The CCC is providing the well owners with alternate water.

FY 1999 WORK: None.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Everest, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: KDHE identified carbon tetrachloride contamination in a private drinking water well in FY 1997. CCC is providing the residence with alternative water. KDHE conducted a Site Screening Assessment in FY 1999. The CCC intends on initiating site characterization activities at the site in FY 2000.

FY 1999 WORK: None.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Frankfort, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: The city has ample, clean drinking water supplied by three public wells. The well contaminated with carbon tetrachloride has been removed from service. KDHE completed an Extended Site Inspection in FY 1998. CCC conducted site characterization activities in FY 1998 and initiated an FS.

FY 1999 WORK: A draft FS was completed by CCC and provided to KDHE and EPA. The draft FS will be reviewed by KDHE in FY 2000, as part of an interagency agreement that was entered into by CCC and KDHE in FY 2000.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Funk, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: The village has ample, clean drinking water supplied by one public well. Data provided to CCC by EPA in 1993 indicated that the town originally had another public well in which carbon tetrachloride had been detected. EPA has conducted a PA/SI at the site. In FY 1998, CCC conducted a data evaluation at the site in preparation for conducting site characterization activities.

FY 1999 WORK: Based on the results of the data evaluation, CCC determined that no further action was required by CCC at the site. A critical review of the existing data for the site found that the well in question had tested positive for carbon tetrachloride contamination on a single occasion and that follow up sampling indicated no detection. The village abandoned the well in the early 1990's for reasons unrelated to the one-time detection of carbon tetrachloride. In addition, all sampling of private wells in the area resulted in no detection of carbon tetrachloride.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Gladstone, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: Several private wells were found to be contaminated with carbon tetrachloride in this small community by EPA in the early 1990's. The town is unincorporated and has no public water system. CCC conducted a data evaluation and site visit in FY 1994. The results of the evaluation determined that, in the early 1980's, most residents connected to the Little Blue Natural Resources District (NRD) water system. However, three residences opted not to connect to the NRD. In FY 1992, EPA conducted a removal action and connected these three residences to the NRD. EPA conducted a PA and SI in FY 1992. CCC conducted additional data evaluation activities in FY 1998, which found that all contaminated private wells were no longer used for drinking and that all community residents now obtain their drinking water from the NRD. Also in FY 1998, CCC conducted sampling of private drinking water wells in the area near the town that were not connected to the NRD, with results indicating no detection of carbon tetrachloride.

FY 1999 WORK: None.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Hackney, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: The unincorporated town of about 15 residences currently has an ample, clean water supply from private drinking water wells. CCC conducted an alternative water supply study in FY 1993 that determined that two private wells contaminated with carbon tetrachloride were no longer in service and a third well no longer tested positive for contamination in subsequent sampling. KDHE has conducted an PA/SI and is studying connecting residents to either a nearby RWD or one of two city systems in the area. The contaminant source has not been identified. Very high levels of nitrates have also been detected in many of these private wells.

FY 1999 WORK: None.

FACILITY: **CCC Formerly Operated Grain Storage Facility**

Hilton, Kansas

STATUS: Non-Docket. Non-NPL

NARRATIVE: The Hilton site is not a community but a crossroads located about four miles north of McPherson. The site currently consists of an agricultural cooperative. A domestic well at this property was found to be contaminated with carbon tetrachloride in FY 1992. The well is no longer used for drinking by the cooperative employees. KDHE conducted a PA in FY 1993 and a screening site inspection in FY 1994. CCC initiated site characterization activities in FY 1996 and completed these activities in FY 1997. However, the study was hindered by the denial of access to private and railroad property throughout the investigation. In particular, the lack of access to railroad property that constitutes more than 90% of the land originally occupied by the former CCC grain storage facility has prevented detailed study of the surface and vadose zone soils at the site. A FS could not be conducted without additional data that could be obtained only with access to railroad property. Furthermore, site characterization work determined that the main aquifer is essentially stagnant at the site and the plume is held within the area of influence of the contaminated private well by the continued use of the well for sanitary purposes. No contamination was found in any private or temporary wells in the area during the characterization work. In addition, no private or irrigation wells are located in the likely path of potential future migration of the contaminant plume, and there is no immediate potential for exposure to carbon tetrachloride in the groundwater. Due to the denial of access, the source and pathway of the contamination in the affected private well are unknown. CCC negotiations with the railroad over access proved unsuccessful. CCC requested the assistance of EPA Region VII in gaining access to the property in FY 1998. EPA responded in FY 1999 noting that it had assigned the site the status of "NFRAP"- no further remedial action planned- under its CERCLIS tracking system. Since the Superfund program does not currently plan any response action at the site, EPA stated that it does not anticipate utilizing CERCLA authority to obtain access for any party conducting investigations at the site. EPA has allowed KDHE to assume lead agency status at the site. Under the terms of the intergovernmental agreement that was entered into by CCC and KDHE in the beginning of FY 2000, the CCC site

characterization work is slated for review by KDHE. However, such a review is not scheduled to be conducted in FY 2000.

FY 1999 WORK: No actions were taken during this fiscal year. Further work at the site has been discontinued until access issues are resolved.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Hordville, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: In 1986, the town's two public water supply wells were found to be contaminated with carbon tetrachloride. The wells also had a history of excessive nitrate concentrations. CCC initiated an alternate water supply study in FY 1993 to determine alternate drinking water options for the village. Efforts to design and construct an air stripper system for the village's public water supply proved unsuccessful. The Nebraska State Department of Health (NDOH) wouldn't approve modifying the village's system with an air stripper due to the age and condition of the wells and because of the nitrate levels identified in the water system. CCC initiated site characterization activities in FY 1994 and completed these activities in FY 1995. CCC then initiated an FS in FY 1995, which was issued in FY 1996. The FS, which provided options for remedial action and an alternate water supply, was provided to EPA, NDEQ, Nebraska Health and Human Services (formerly NDOH), and to the community for comment. Natural attenuation was the selected alternative, coupled with a monitoring program to confirm the risk assessment's findings that no current or potential future residences outside of town and down gradient from the contaminant plume will be affected in the future. The FS also recommended the drilling of two new public water supply wells to replace the two contaminated wells. On behalf of CCC, the Army Corps of Engineers (ACE) completed pre-design activities for the two new wells in FY 1997. In FY 1998, design was finalized and the two new wells were constructed and connected to the community's distribution system. The contaminated wells are no longer in service. CCC initiated a monitoring program in FY 1996. Continued monitoring was conducted in FY 1997 and FY 1998.

FY 1999 WORK: CCC continued its monitoring program in FY 1999. A review and summary of all of the monitoring program data is scheduled to be conducted in FY 2000.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Hubbard, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: Carbon tetrachloride was detected above the MCL in the village's main water supply well in the early 1980's. The town also has a standby well that has never tested positive for carbon tetrachloride. EPA conducted a PA in 1986 and an SI in 1987. The contaminant source was not identified. CCC conducted a data evaluation in FY 1998, with results indicating that the contaminated public well was tested quarterly for several years during the 1990's with contamination detections consistently occurring, though all detections have registered below the MCL.

FY 1999 WORK: The CCC initiated site characterization activities at the site. These activities were scheduled to be completed in FY 2000.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Humphrey, Nebraska

STATUS: Non-docket. Non-NPL

NARRATIVE: Two of the town's three public water supply wells have been found to be contaminated with carbon tetrachloride. The first indication of contamination was in 1983. The CCC completed an evaluation of the town's drinking water supply in FY 1995, with results indicating that the town obtains sufficient safe, potable water from its main producing public supply well. This is the town's newest well and has not been affected by the contamination. CCC initiated site characterization activities at the site in FY 1995 and completed these activities in FY 1996. CCC initiated an FS in FY 1996 and completed this study in FY 1997. The FS recommended the no-action alternative under CERCLA be accepted for the town's principle aquifer because simulated contaminant migration scenarios and risk assessment calculations presented in the FS demonstrated that there is no unacceptable

health risks to the town's residents or to residents outside of town limits. The FS also determined that no potential negative environmental impacts are expected with this scenario. CCC also conducted an evaluation of alternative water supply options for the town in FY 1996. The purpose of this study was to provide the community with technical information regarding several viable options for supplementing the supply of groundwater that was being delivered to the city's municipal water supply system at that time. CCC provided the study to the community and held follow up meetings with the city council. The council expressed interest in the option in which a new public well could be drilled outside of town limits, in areas where it was determined that a new public well could obtain an ample, clean water supply. In FY 1998, CCC successfully completed negotiations with the community in reaching a settlement whereby the town received CCC funding to construct and connect a new public well.

FY 1999 WORK: None.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Kenesaw, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: Carbon tetrachloride was detected at levels above the MCL in one of the village's public water supply wells in 1990 by NDOH. EPA conducted a PA in FY 1992 and an SI in FY 1994. CCC conducted a data evaluation in FY 1998, in preparation for conducting site characterization activities.

FY 1999 WORK: Based on the results of the data evaluation, CCC determined no further action was required at the site by CCC. A critical review of the existing data for the site found that the town currently receives ample, clean water from two additional public wells and that the contaminated public well has been removed from service. The evaluation also determined that, based on SI soil gas results, two contaminant source areas were identified. CCC did not operate grain storage facilities at either of these locations. These source areas were determined to be properties where private parties have historically conducted grain storage operations.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Leoti, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: One of the city's seven public water supply wells is contaminated with carbon tetrachloride. The first indication of contamination was in a sample collected from the well in 1986. KDHE conducted a PA in 1991 and an SI in 1993. The agency subsequently notified CCC and two private grain storage facilities that they were considered potentially responsible for the contamination. In FY 1995, CCC conducted a data evaluation in preparation for conducting site characterization activities. However, based on the results of the data evaluation, CCC determined in FY 1995 that no further action was required at the site by CCC. The evaluation found that the city connected an air stripper treatment system to the contaminated well in FY 1994, which has effectively removed the contamination. The city has since constructed additional public wells to its distribution system due to ongoing nitrate problems. After reviewing the data contained in the PA/SI and other well testing data obtained, CCC concluded that the data indicated that CCC was not responsible for the contamination.

FY 1999 WORK: None. The status of the site is currently under review by KDHE as part of an interagency agreement entered by CCC and KDHE in FY 2000.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Milford, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: Carbon tetrachloride was detected in FY 1995 in a domestic drinking water well located near a former CCC grain storage facility. The facility was located approximately 1.25 miles south of Milford. CCC provided the affected residents with an alternate water supply. EPA conducted a PA in FY 1996. An SI was initiated in FY 1998 and completed in FY 1999. The SI determined that contamination extends 2,700 feet to the east from the former CCC facility.

FY 1999 WORK: CCC initiated site characterization activities in FY 1999. These activities are scheduled to be completed in FY 2000.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Morrill, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: Carbon tetrachloride was detected in the town's drinking water supply in the late 1980's. KDHE conducted a PA in FY 1989 and informed EPA that the town also had chronic inorganic problems with its old wells. CCC conducted an alternative water supply study in FY 1993 and determined that the town had an ample supply of clean drinking water. CCC learned that the town had connected to the city of Sabetha public water supply and also used water from the Brown County RWD #1 as a backup source. KDHE has conducted monitoring activities at the site. The carbon tetrachloride contaminant source has not been identified.

FY 1999 WORK: None.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Murdock, Nebraska

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Carbon tetrachloride was detected in Murdock's public water supply in 1985 by NDOH. EPA conducted a removal action in 1986-87 to link the Murdock distribution system with a source of water unaffected by the contamination- the Cass County Rural Water District #2 (RWD) system. EPA conducted a PA in 1986, and SIs in 1986 and 1988, and also prepared an Engineering Evaluation and Cost Analysis. EPA identified the former CCC facility as the source of the contamination. The CCC and EPA entered into an Administrative Order on Consent in FY 1992. The CCC agreed to carry out the work called for in the Order. The Order also called for CCC to reimburse EPA for costs it had incurred at the site, including the RWD connection. During FY 1992, CCC reimbursed EPA for its past costs and initiated site characterization activities at Murdock. These activities were completed in FY 1993, concluding that the contaminant plume

migration would result in discharge to a small, intermittent stream north of the village. EPA conducted a risk assessment in FY 1994, which confirmed that current residents were not at risk from exposure to contaminated groundwater since alternate water had been provided to the town. However, the assessment calculated that risk levels associated with groundwater exposure for a hypothetical future resident choosing to locate a private drinking water well down gradient from the plume would be in excess of risk levels set by EPA. EPA prepared a draft Removal Action Document in FY 1996. EPA recommended that CCC undertake several additional activities at the site, including the installation of additional monitoring points down gradient from the existing monitoring wells and near the intermittent stream. The purpose of these additional monitoring points was to provide additional information for demonstrating groundwater flow and discharge. CCC conducted additional aquifer sampling in FY 1996 since groundwater flow and the contaminant plume had not been observed since the issuance of CCC's final report to EPA in FY 1993. In FY 1997, additional monitoring points were installed and a preliminary groundwater flow model was developed. However, access to certain properties where additional monitoring points were needed was not obtained through FY 1998.

FY 1999 WORK: All access issues were resolved and a complete set of aquifer sampling locations was able to be put in place. Sampling from all of these locations was to continue into FY 2000. The data collected will be evaluated for use in the development of a contaminant transport model.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Navarre, Kansas

STATUS: Non-Docket. Non-NPL.

NARRATIVE: EPA identified the CCC as a PRP at Navarre. Several of the unincorporated community's private drinking water wells were found to be contaminated with carbon tetrachloride in 1990. KDHE conducted a PA in 1991 and 1992, under an agreement with EPA. CCC initiated an alternative water supply study in early 1992 to examine alternate water options for residents. The study was completed in June 1992, recommending that bottled water be provided until a permanent solution could be found. Shortly

thereafter, CCC made arrangements for the procurement and delivery of bottled water to all residents. CCC subsequently also began providing residents with carbon filtration units in 1993. CCC initiated site characterization activities in early 1992 to determine the source and extent of the contamination. These activities were completed in 1993. A final feasibility study (FS) was issued in FY 1995. The FS delineated the quantity and extent of the carbon tetrachloride contamination, future migration patterns, and the associated risk of such migration. The study examined several alternatives for remediating the contamination but concluded that none of the alternatives would return the groundwater to drinking water standards because of high nitrate concentrations in the aquifer. The study also concluded that if a permanent alternate water supply could be provided for Navarre, then the carbon tetrachloride in the aquifer may be allowed to proceed toward natural attenuation. The study used EPA protocols in calculating analytical solute transport models that indicated that natural restoration may occur before the contaminant plume migrates 10,000 feet from town. It was also determined that no current residents outside of town would be affected by the plume. Since the completion of its investigations at the site, CCC concentrated its efforts on determining the feasibility of connecting Navarre residents to a permanent clean water source. A nearby rural water district was identified that was to be expanding into the Navarre area. KDHE conducted an investigation of the nitrate contamination in 1997.

FY 1999 WORK: CCC entered into a reimbursable agreement with KDHE, in which KDHE would connect residents to Dickinson County RWD #2.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Plainville, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: One of the city's public water supply wells is contaminated with carbon tetrachloride. The well is no longer in service. The city receives ample, clean water from numerous other public wells. KDHE has conducted a PA/SI. CCC conducted an evaluation of the data contained in these investigations in preparation for conducting characterization activities at the site. However, this

evaluation determined that CCC was not responsible for the carbon tetrachloride contamination. The evaluation determined that the former CCC site was located over one mile outside of town and was not upgradient to the contaminated well.

FY 1999 WORK: None.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Potwin, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: City has ample supply of clean drinking water provided by Butler County RWD #7, which has provided the community with drinking water since 1982. The well contaminated with carbon tetrachloride is no longer in service. KDHE has conducted a PA/SI. CCC conducted a data evaluation of all KDHE investigative reports and conducted a site visit, in preparation for conducting site characterization activities. However, this evaluation determined that the town's aging public wells have a multitude of contamination problems not associated with carbon tetrachloride, including inorganics and petroleum refinery spills. Refinery cleanup is ongoing. These problems were the reason the town connected to the RWD. Due to these findings, the CCC discontinued characterization activities.

FY 1999 WORK: None.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Ramona, Kansas

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The underground aquifer supplying drinking water to several domestic wells at Ramona is contaminated with carbon tetrachloride. Contamination was first detected in 1988. CCC provided bottled water and carbon filtration units to the residents with contaminated wells. Almost all village residents, including all residents with contaminated wells, connected to the Marion County Rural Water District in 1995. The connection was financed by a USDA rural development grant. The CCC began site

characterization activities in 1994 but was unable to complete the study due to problems obtaining access to certain properties. CCC requested the assistance of EPA Region VII in gaining access in FY 1998. EPA responded in FY 1999 noting that it had assigned the site the status of "NFRAP"- no further remedial action planned- under its CERCLIS tracking system. Since the Superfund program does not currently plan any response action at the site, EPA stated that it does not anticipate utilizing CERCLA authority to obtain access for any party conducting investigations at the site. EPA has allowed KDHE to assume lead agency status at the site.

FY 1999 WORK: No actions were taken during this fiscal year. Site characterization work discontinued until access issues resolved. Under the terms of the intergovernmental agreement that was entered into by CCC and KDHE in the beginning of FY 2000, the CCC site characterization work is slated for review by KDHE at some point in the near future. The site has yet to be deleted from CERCLIS as of FY 2000.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Raymond, Nebraska

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Carbon tetrachloride has been detected at levels below the MCL in Raymond's public water supply system since 1990. NDOH has monitored the town's water supply since that time. Even though contaminant levels have never exceeded the MCL during this monitoring work, the contaminant has consistently been detected, causing the State to notify EPA that a potential health risk existed at the site. EPA completed a PA for the site in FY 1997, concluding that the former CCC facility was the source of the contamination. Private drinking water wells in the vicinity of the former CCC facility were sampled during the PA, with two wells found having detection levels above the MCL. CCC subsequently provided a permanent alternate water source to one of the affected residences. The other affected residence declined alternate water. CCC initiated site characterization activities late in FY 1997 and completed these activities in FY 1998. An FS was initiated in FY 1998.

FY 1999 WORK: The FS was completed, recommending that a remediation system be put in place. Also, CCC learned that the village was pursuing funding to upgrade its water system, including installation of a new public well. Discussions with the village and regulators were initiated due to concern that the CCC's proposed remediation system and the village's planned water system upgrades may negatively impact one another. CCC's goal in these ongoing discussions is to ensure that the two efforts can be coordinated and be complimentary of one another.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Shelby, Nebraska

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Carbon tetrachloride in excess of the MCL was detected in Shelby's public water supply in 1990 by NDOH. EPA conducted a PA in FY 1991 and an SI in FY 1993, which identified the former CCC facility as a source of the contamination. CCC conducted an alternate water supply study in FY 1992 to determine if a removal action was necessary. CCC determined that the town needed an alternate water supply and concluded, after discussions with EPA, NDOH and the town, that an air stripper treatment system would provide the best solution to meet Shelby's water needs. CCC initiated a remedial design evaluation/review of a treatment system in FY 1994. The U.S. Army Corps of Engineers, on behalf of the CCC, completed the design of a treatment facility and construction commenced in FY 1995. The system became operational in FY 1996. The CCC has entered into a settlement agreement with the community, whereby the town operates and maintains the treatment system and CCC reimburses the town for its operations and maintenance expenses annually.

FY 1999 WORK: CCC continued to work with the town in ensuring the effectiveness of the treatment system, under the terms set forth in the settlement agreement.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Tamora, Nebraska

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The aquifer supplying drinking water for several private drinking water wells at Tamora is contaminated with carbon tetrachloride at levels exceeding the MCL. Contamination was first detected in 1992 by NDOH. In FY 1992, EPA conducted a removal action at the site, providing bottled water to residents with contaminated wells. EPA then requested that CCC assume responsibility for installing carbon filtration units to the wells of the affected residences. EPA completed a PA in early FY 1993 and an SI later in FY 1993. Filtration units were installed in FY 1993. The former CCC site was located outside of town limits and was considered a possible source of contamination, along with an agricultural cooperative located in town. In discussions with EPA and state regulators in early FY 1994, it was agreed that the CCC would conduct site characterization activities at the site. However, in conducting its data evaluation in preparation for site characterization field work, CCC determined that its former facility was not the source of the contamination. This finding was based on data provided in the PA/SI that the former CCC facility was not located near the contaminant source area and is not hydraulically upgradient of the contaminated wells. Therefore, site characterization activities were discontinued.

FY 1999 WORK: None.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Utica, Nebraska

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Utica's public water supply system was found to be contaminated with carbon tetrachloride in 1986 by NDOH. EPA conducted a PA and SI and subsequently informed CCC that it had been identified as the source of the contamination. Levels as high as 695 ppb have been detected in the contaminated public well, which is no longer in service. The town has also experienced nitrate problems with its drinking water system. Ultimately, the town decided to construct a new public well in order to continue to be able to provide an ample supply of clean drinking water to its residents. The new well experienced iron and manganese problems resulting in the town's financing of the construction of a treatment facility. The treatment system began operation in 1995. The town now has an ample supply of clean drinking water for its residents. In FY 1992, CCC

initiated site characterization activities at Utica, which were completed in FY 1994. These studies identified a contaminant plume that extends about 3,200 feet down gradient from the former CCC site and also a potential soil source under the site. An FS was initiated in FY 1994 and completed in FY 1995. The report suggested that a groundwater extraction well system was needed to achieve removal of the contaminant plume and contain the potential soil source. A baseline risk assessment was conducted in FY 1995 for the no-action alternative, with results demonstrating unacceptable risks. Remediation is needed, as human health will be at risk in future years if groundwater with significantly elevated concentrations of carbon tetrachloride is not treated. CCC has since proceeded with investigations aimed at identifying a preferred remedial strategy for the site that is technically, logistically, and economically viable. CCC began working on developing an innovative strategy that addresses remediation of the contaminant plume and treatment and provides a beneficial use for disposing of the treated water. Water disposal is a key issue because drainage patterns in the area are not well defined or extensive. CCC conducted numerous discussions with the community and EPA and State officials regarding this approach. CCC also negotiated a settlement agreement with the community in FY 1998, which reimbursed Utica for costs it has incurred in upgrading its water system due to the contamination problems. In FY 1998, CCC initiated an environmental/agricultural enhancement pilot project at the site. The purpose of the project was to evaluate the feasibility of an integrated extraction, treatment, and discharge strategy for contaminant removal that would result in a beneficial reuse of the groundwater.

FY 1999 WORK: CCC completed Stage I of its pilot project evaluating the feasibility of using spray irrigation and wetlands augmentation as a means of carbon tetrachloride remediation. Analysis of collected data demonstrated that remediation and wetlands augmentation can be achieved using seasonal pumping and spray irrigation. CCC continued to hold discussions with the community and regulators to keep them abreast of the progress and results of the pilot project and to ensure their support of these efforts. Stage II of the project is scheduled to commence in FY 2000 and will involve field testing of the complete process of groundwater extraction, treatment using spray irrigation, and delivery to a nearby wetlands.

FACILITY: **Formerly Operated Grain Storage Facility**
Walton, Nebraska

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Carbon tetrachloride was first detected in several private drinking water wells by the Lincoln-Lancaster County Health Department in 1988. EPA conducted a PA in 1989 and an SI in 1990. The SI stated that CCC formerly stored grain at the site. The village received a community development block grant in 1991 and all residents were connected to the Cass County Rural Water District in late 1991. In 1993, EPA provided CCC with a listing of all former CCC facilities where carbon tetrachloride had been detected. Walton appeared on this list and on a subsequent updated list provided to CCC in 1995. In discussions with EPA and state regulators in FY 1997, it was agreed that CCC would conduct site characterization activities at the site. In FY 1997, CCC initiated a data evaluation of the site in preparation of site characterization activities. The results of this evaluation found no evidence that CCC operated a facility in Walton. These results were based on interviews with long-time town residents and Nebraska Farm Service Agency employees, records searches in the county courthouse, and reviews of old aerial photographs. Regulators were informed of these results and the investigation was discontinued.

FY 1999 WORK: None

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Waverly, Nebraska

STATUS: Non-Docket. NPL (Non-federal) (Listed on the NPL in June 1986).

NARRATIVE: In 1982, two of Waverly's public water supply wells were found to be contaminated with carbon tetrachloride. EPA conducted preliminary investigations in 1985 and the site was listed on the NPL in 1986. EPA named CCC as a PRP in 1987. CCC negotiated a settlement agreement with the community in 1988, providing reimbursement to the town for costs associated with installing new public wells. The city now has an ample supply of safe, potable drinking water provided by several public wells. EPA

elected to mitigate the contamination through an Expedited Response Action (ERA). The ERA called for the installation of a soil and groundwater remediation system. EPA installed the ERA system in 1988. The system consisted of a groundwater extraction well (GWEX), an air stripper for treating the contaminated water, and a vapor extraction system (VES) for treating soil source concentrations. CCC and EPA signed a Compliance Agreement in 1988 which called for CCC to assume responsibility for operation of the ERA system. The agreement also required CCC to reimburse EPA for its past costs at the site. EPA issued a record of decision in FY 1991. The VES was shut down in FY 1993. A supplementary groundwater extraction well (SGWEX), was added to the system in FY 1994 to capture a groundwater contamination plume northeast of the site that had not been identified in the previous EPA investigations. Since that time, cleanup has continued uninterrupted and without problems with the treatment system. In FY 1995, the GWEX was shut down, leaving the SGWEX as the only operating extraction well. As lead agency for the site, EPA has carried out most community involvement activities with the town.

FY 1999 WORK: EPA concurred with CCC's recommendation to shut down the air stripper system and to pump extracted groundwater (now having contaminant concentrations consistently below the MCL) directly to the existing discharge point. CCC continued monitoring at the site. Pumping will cease upon achievement of the groundwater restoration goals.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Webber, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: KDHE identified carbon tetrachloride contamination above the MCL in one private drinking water well in FY 1997. CCC subsequently provided alternate water to the affected residence. KDHE also identified contamination in four additional private wells below the MCL. KDHE completed a Phase I Comprehensive Investigation, identifying CCC as a PRP.

FY 1999 WORK: None.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Wymore, Nebraska

STATUS: Non-docket. Non-NPL.

NARRATIVE: Carbon tetrachloride was detected in FY 1995 by NDOH in a private drinking water well. The well is located about ½ mile from the village of Wymore. CCC operated a grain storage facility on the property where the contaminated well is located. CCC subsequently provided the affected residents with a permanent alternate water supply by connecting them to a rural water district pipeline that originates in nearby Barneston, Nebraska. CCC conducted a limited sampling program at the site in FY 1997, with results showing no contamination in any other private drinking water wells in the rural area.

FY 1999 WORK: None.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
Yates Center, Kansas

STATUS: Non-docket. Non-NPL.

NARRATIVE: CCC identified carbon tetrachloride in a private drinking water well in FY 1997 and is providing alternate water to the affected residents.

FY 1999 WORK: None.

FACILITY: **CCC Formerly Operated Grain Storage Facility**
York, Nebraska

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The underground aquifer system supplying drinking water to parts of the community were found to be contaminated with carbon tetrachloride at levels in excess of the MCL in 1990 by NDOH. EPA conducted a PA in 1990 and an SI in 1991, concluding that past grain fumigation activities at the former CCC facility were responsible for the contamination. In FY 1992, CCC initiated an alternate water supply study to determine if a removal action was

necessary at the site. It was determined that several residences and businesses needed to be placed on an alternate water supply. CCC negotiated and ultimately contracted with the city to connect affected residences and businesses in FY 1993. CCC conducted site characterization activities in FY 1993 and FY 1994. An FS was conducted in FY 1995. A final FS was issued in FY 1996, recommending consideration of a groundwater extraction system to remediate the aquifer. There are other significant VOC problems besides carbon tetrachloride in the aquifer system not associated with the former CCC facility which need to be addressed by EPA and State regulators. The specifics of a recommended treatment system for the carbon tetrachloride contamination cannot be determined until negotiations with EPA and the State are completed.

FY 1999 WORK: Negotiations with regulators were ongoing.

U.S. FOREST SERVICE
REGION ONE

FACILITY: **Barker-Hughesville Mining District, Lewis and Clark National Forest,**
Great Falls, Montana

STATUS: Docket. Non-NPL. (Listed on the December 1989, docket). In 1994, the Forest Service and the Montana Department of Environmental Quality cooperatively completed a site inspection and draft Hazard Ranking System (HRS) score. The draft HRS score was 52.8.

NARRATIVE: The Barker-Hughesville Mining District contains numerous waste-rock dumps, acid mine-water discharges, and mill tailings (Block P). Most of the waste-rock dumps and adit discharges are located on private lands, while approximately two-thirds of the Block P tailings impoundments are located on National Forest System lands. The lower impoundment lies in the floodplain of Galena Creek in an area of high groundwater. The upper tailings impoundment has breached and has been eroding into and filling the lower impoundment. The tailings contain elevated levels of arsenic, lead, zinc, and copper. Deposits of tailings are visible for several miles downstream of the impoundments.

The Forest Service completed a Preliminary Assessment (PA) and PA prescore for the district in May 1991 and December 1991, respectively. In 1994, the Forest Service and Montana Department of Environmental Quality entered into a participating agreement to complete a site inspection and compute a HRS score for the District.

The Forest Service completed a time-critical removal in March 1995 to help stabilize the Block P tailings impoundments and to prevent a massive release of tailings onto private lands and eventually into Galena Creek and the Dry Fork of Belt Creek. Also, in 1995, the Forest Service notified a Potentially Responsible Party (PRP). In 1997, we worked with the PRP for site investigation and characterization work.

FY 1999 WORK: Continued discussions with the identified PRP, EPA, Office of the General Counsel (OGC), Department of Justice and Montana

Department of Environmental Quality. Montana Department of Environmental Quality is pursuing the PRP for work on the private land in the mining district. The PRP has hired a contractor to work on an EE/CA for the Block P tailings (mostly on National Forest System lands). EPA, PRP and FS have signed an Administrative Order on Consent for the Block P tailings EE/CA. The EE/CA should be completed in 2000 and a recommended alternative selected for the Block P tailings. Implementation of the recommended alternative is planned for 2000 and 2001.

FACILITY: **Lower Elkhorn Mine and Mill Site, Beaverhead-Deerlodge National Forest, Dillon, Montana**

STATUS: Docket. Non-NPL. (Listed on the December 15, 1989, docket). The Forest Service completed a draft site inspection (SI) and a HRS score in 1995. The SI and prescore were never finalized as the Forest Service decided to move ahead with a non-time-critical removal action.

NARRATIVE: The lower Elkhorn Mine and mill site consists of a discharging adit that flows over and through a waste-rock dump and an unconfined tailings pile in the natural channel of Elkhorn Creek. Water samples from Elkhorn Creek downstream of the site exceed aquatic life standards for aluminum, cadmium, copper, lead, and zinc. Upstream of the site, Elkhorn Creek exceeds the aquatic life standard for zinc.

The Forest Service completed a PA and PA prescore for the site in June 1991 and December 1991, respectively. In 1995, the Forest Service completed a PRP search, a draft SI, and a HRS score. In 1997, we completed the EE/CA, identify the recommended alternative, and begin construction. This phase of the project was completed in 1998.

FY 1999 WORK: Phase II dealing with the stream reconstruction designed in 1998 and 1999 with implementation started in 1999.

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FACILITY: **Charter Oak Mine and Mill Site, Helena National Forest, Helena, Montana**

STATUS: Non-Docket. Non-NPL. The Forest Service began a series of non-time-critical removals at this site beginning in 1996.

NARRATIVE: The Charter Oak Mine and Mill site consists of numerous waste-rock dumps located on very steep slopes, mill tailings located within the floodplain of the Little Blackfoot River, and acid mine discharges from several adits. The mining/milling wastes and adit discharges are very high in arsenic and lead.

The Forest Service completed a removal site evaluation in May 1994. In 1995, the Forest Service completed a PRP search and identified no viable PRPs. Also in 1995, the Forest Service disposed of miscellaneous hazardous wastes at the site. In 1997, the Forest Service constructed drainage controls around the waste-rock dumps to limit leaching of metals and to stabilize the dumps. The State of Montana, through a grant to Powell County, contributed approximately $300,000 for this work. In 1998, the waste rock dump response action was completed. No further actions other than monitoring are planned; however, if technologies later become available to effectively deal with the adit discharge in a cost-effective manner, then further work on the discharges may occur.

FY 1999 WORK: Continued to monitor the action.

FACILITY: **Silver Crescent Mine and Mill Site, Idaho Panhandle National Forests, Coeur d'Alene, Idaho**

STATUS: Non-Docket. Non-NPL. The Forest Service began a non-time-critical removal at this site beginning in 1995.

NARRATIVE: The Silver Crescent mine and mill site consists of flotation tailings that are being actively eroded by the East Fork of Moon Creek, jig tailings and waste-rock dumps, and several adit discharges. Water samples from the East Fork of Moon Creek below the site exceed the maximum contaminant level for cadmium, copper, lead, and zinc. Residents live within a couple of miles of the site and the public uses the site heavily.

The Forest Service completed a PRP search in 1995 and identified no viable Potentially Responsible Parties. In 1997, the Forest

Service completed the EE/CA and the design for the recommended alternative. Construction began in 1998.

FY 1999 WORK: The Forest Service continued the implementation of the response action and plans to complete this in 2000.

FACILITY: **Blackfoot Tailings, Helena National Forest, Helena, Montana**

STATUS: Non-Docket. Non-NPL. The Montana Department of Environmental Quality, in cooperation with the Forest Service, completed a non-time-critical removal at this site in 1996.

NARRATIVE: Approximately 3,700 cubic yards of tailings were located adjacent to State Highway 200 and about 500 feet from the Blackfoot River. The tailings contain elevated levels of cadmium, copper, lead, mercury, zinc, and cyanide. The tailings were located on both private and public (National Forest System) land. In 1996, the Montana Department of Environmental Quality completed an EE/CA and removed the tailings and disposed of them in a repository owned by a PRP.

FY 1999 WORK: No further actions planned to date.

FACILITY: **Vosburg Mine, Helena National Forest, Helena, Montana**

STATUS: Non-Docket. Non-NPL. The Forest Service, in cooperation with the Montana Department of Environmental Quality, completed a non-time-critical removal at this site in 1995.

NARRATIVE: During the spring runoff in 1994, tailings material from this site was observed to be eroding into Badger Creek, which eventually flows into Canyon Ferry Lake. The Forest Service and the Montana Department of Environmental Quality entered into a participating agreement to clean up this site. The State performed all of the site characterization, EE/CA, design, and specifications. The Forest Service completed a PRP search and identified no viable Potentially Responsible Parties. Construction was completed in the fall of 1995. The Montana Department of Natural Resources,

through a grant to the City of Townsend, contributed $300,000 toward the construction costs; the Forest Service funded the balance. The Forest Service completed some additional seeding, monitoring, and road obliteration work at the site.

FY 1999 WORK: No further action planned.

FACILITY: **Nancy Lee Mine Site, Lolo National Forest, Missoula, Montana**

STATUS: Non-Docket. Non-NPL. The Forest Service and the Montana Department of Environmental Quality entered into an agreement to complete a non-time-critical removal in 1996.

NARRATIVE: The Nancy Lee Mine complex consists of numerous adits, associated waste-rock dumps, and mill tailings on mixed public (National Forest System) and private lands. Tailings were apparently discharged from the mill and sluiced into small impoundments within Mill Gulch Creek. These impoundments have been breached, and tailings have been eroded and redeposited within the Mill Gulch Creek floodplain for a distance of approximately 0.8 mile downstream of the mill site. The lowest waste-rock dump has covered the mill site, has a very steep slope, does not support vegetation, and is also eroding into Mill Gulch Creek. Upper waste-rock dumps are unvegetated and are also a source of sediment. The mining/milling wastes have elevated concentrations of arsenic, copper, lead, and zinc.

In 1996, the Forest Service (FS) began land farming of the petroleum-contaminated soil at the site and is expected to continue for 3 years.

In 1997, the Montana Department of Environmental Quality (MDEQ), in cooperation with the FS, planned to complete the EE/CA and identify the recommended alternative. The Forest Service planned to conduct a PRP search to determine if there are viable PRPs.

In 1998, the MDEQ completed the EE/CA for the private lands and started the implementation of the preferred response action.

FY 1999 WORK: Land farming (bio-remediation) of the petroleum-contaminated soil was completed. The FS continued the PRP search.

FACILITY: **Highland Millsite, Beaverhead-Deerlodge National Forest, Dillon, Montana**

STATUS: Non-Docket. Non-NPL. The Forest Service began a non-time critical removal in 1996.

NARRATIVE: The Highland Millsite is an abandoned mineral processing facility located in the upper portion of the Middle Fork of Moose Creek in the Highland Mountains south of Butte, Montana. The millsite consists of the abandoned mill and associated debris, and four tailings ponds in the Middle Fork of Moose Creek drainage. An estimated 51,425 cubic yards of tailings are actively being eroded into the drainage. A viable PRP has been identified. The State of Montana, through a grant to the Mile High Conservation District contributed $256,000 for the cleanup work. The recommended alternative was total removal of the mill wastes to an on-site repository.

FY 1996 WORK: In 1996, the Forest Service started the Site Investigation and draft EE/CA.

FY 1997 WORK: In 1997 the EE/CA and design for the recommended alternative was initiated.

FY 1998 WORK: In 1998 the EE/CA and design continued.

FY 1999 WORK: In 1999, the design for the recommended alternative was completed. A contract was awarded for removal activities at this site in 1999. Completion of the construction activities is planned for 2000.

FACILITY: **Tarbox Mine Site, Lolo National Forest, Missoula, Montana**

STATUS: Non-Docket. Non-NPL. The Forest Service began a non-time-critical removal in 1998.

NARRATIVE: The Tarbox Mine Site is an abandoned mine located in the upper portion of the Packer Creek drainage in the Coeur d'Alene

Mountains north of Saltese, MT. Tarbox Mine comprises an 800 foot shaft and nearly 4,300 feet of mine workings. An unnamed tributary creek into Packer Creek is actively eroding an estimated 14,100 cubic yards of waste rock. The waste rock at the site was produced during operation of the mine. The waste rock contains elevated levels of arsenic, copper, cadmium, lead, and zinc.

In 1998, the Forest Service started the Site Investigation and draft EE/CA.

FY 1999 WORK: The Forest Service continued the Site Investigation and draft EE/CA. The final EE/CA and design for the recommended alternative is planned for 2000. Implementation of the recommended alternative is planned for 2001.

FACILITY: **Coeur d'Alene River Basin, Idaho Panhandle National Forests, Coeur d'Alene, Idaho**

STATUS: Non-Docket. Non-NPL. Site is adjacent to Bunker Hill NPL site. The NRDA is in litigation.

NARRATIVE: The Coeur d'Alene Basin Natural Resource Damage Assessment encompasses the South Fork of the Coeur d'Alene River and the Coeur d'Alene River downstream from the confluence with the South Fork. The action is being cooperatively undertaken by the Forest Service, the U.S. Department of the Interior (Fish and Wildlife Service and Bureau of Land Management), and the Coeur d'Alene Tribe of Idaho. In FY 1995, the injury- determination studies were essentially completed and the damage-quantification process began. Technical restoration teams have been established for various parts of the basin and are developing restoration alternatives for analysis. The damage assessment should be completed by the middle of FY 1997. Project managers for each of the natural resource trustees coordinate all work. Management direction is provided through a trustee council composed of the Regional Forester, Northern Region Forest Service; Director, Northwest Region Fish and Wildlife Service; and Chairman, Coeur d'Alene Tribe. Filed lawsuit against Potentially Responsible Parties.

FY 1999 WORK: EPA (Region 10) conducting expanded site RI/FS. The NRDA lawsuit continues with negotiation being conducted to try and reach settlement.

FACILITY: **Non Pareil Mill Tailings, Beaverhead-Deerlodge National Forest,**
Dillon, Montana

STATUS: Non-Docket. Non-NPL. The Montana Department of Environmental Quality, in partnership with the Forest Service, completed a preliminary EE/CA and began a two year monitoring program in 1996.

NARRATIVE: The Non Pareil tailings are within the floodplain of Boulder Creek and are located mostly on National Forest System lands. There are four main tailings impoundments. Two of the piles were removed and disposed of in the Brooklyn mine site repository in 1995. The other two tailings impoundments have water flowing over them that originates from springs on the site. Boulder Creek flows around the site and joins with the impoundment discharge just below the last tailings dam. Lead from the impoundments is affecting the water quality of Boulder Creek. In 1997, the Montana Department of Environmental Quality planned to continue monitoring.

FY 1999 WORK: Continued monitoring. In 2000, with the information collected, the Forest Service will start an EE/CA for the remaining waste materials.

FACILITY: **Combination Mill Tailings, Beaverhead-Deerlodge National Forest,**
Dillon, Montana

STATUS: Non-Docket. Non-NPL. The Forest Service is cooperating with a voluntary cleanup effort by ASARCO.

NARRATIVE: The Combination Mill tailings lie in the floodplain of Lower Willow Creek. In 1989, a thunderstorm produced over bank flooding. Large areas of the tailings were scoured and eroded into the streams. In 1992, the Forest Service completed a study that recommended several measures to help control erosion and the

subsequent release of tailings with elevated levels of heavy metals into Lower Willow Creek. In addition, the Forest Service completed a land-line survey and discovered that most of the tailings were on private land surrounded by National Forest System lands. The Forest Service contacted ASARCO, the owner of the tailings. Through ongoing discussions with ASARCO and State of Montana officials, ASARCO agreed to voluntarily cleanup the tailings. ASARCO began construction in late summer of 1994. ASARCO reestablished the original stream channel of Lower Willow Creek and constructed berms to keep Lower Willow Creek in its natural channel and off of the tailings. In 1995, ASARCO incorporated lime and seeded the tailings. Some additional minor stabilization and stream restoration work is planned for 1997.

FY 1999 WORK: The Forest Service monitored the work that ASARCO completed in 1994 and 1995. There is some concern with the long-term effectiveness of the actions taken.

FACILITY: **Riley Pass Uranium Mines Site, Custer National Forest, Billings, Montana**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The North Cave Hills are steep-sided and generally flat-topped buttes that are rimmed with sandstone cliffs. The Riley Pass uranium mines are abandoned lignite strip mines located on relatively flat areas along the top of twelve buttes. The mines are primarily within the Sioux Ranger District of the Custer National Forest, but a small fraction are situated on private land. They cover a total of approximately 340 acres of highwalls, pit floors, and spoils. Some of the spoils were pushed over the edges of the buttes onto the steep slopes below the rim rocks during mining. Additional spoils have been deposited on these slopes by subsequent water and/or wind transport. The PRP was sent a 104(e) letter and a reply was received.

FY 1999 WORK: In 1999 a draft Site Investigation was started. Completion of the Site Investigation and draft EE/CA is planned for 2000.

FACILITY: **Buckeye/Enterprise Mines, Beaverhead-Deerlodge National Forest, Dillon, Montana**

STATUS: Non-Docket. Is in the Basin Creek NPL site.

NARRATIVE: The Enterprise mine site is primarily on private lands and the Buckeye tailings are primarily on National Forest System Lands. This is a joint action with EPA Region 8 and the Forest Service. The site consists of several waste rock piles and tailings deposit near a stream.

FY 1999 WORK: An agreement with EPA and the Forest Service was signed. This established co-lead on the response actions. The planned implementation is for the field season of 2000. Waste will be taken to Luttrell Pit joint mine waste repository at the Basin Creek Mine for disposal.

FACILITY: **Beatrice/Justice/Armstrong Mines, Helena National Forest, Helena, Montana**

STATUS: Non-Docket. Non-NPL. The Forest Service began a non-time critical removal in 1998.

NARRATIVE: Mine waste present at the three mines is limited to waste rock and acid mine drainage. The total area covered by the mine wastes dump is 3.1 acres and total volume of waste rock is about 21,700 cubic yards. Metal concentrations are elevated more than three times over background levels for numerous metals, with concentrations of arsenic and lead most notable. The recommended alternative was total removal of mine waste from the Beatrice/Justice/Armstrong Mines to the Luttrell Pit waste repository.

FY 1999 WORK: In 1998 and 1999, the Forest Service completed the Site Investigation, EE/CA, and design for the recommended alternative. A contract was awarded for removal actions at this site in 1999. Completion of the construction activities is planned for 2000.

FACILITY: **Rainy Hill/Medimont Boat Launch, Idaho Panhandle National Forests, Coeur d'Alene, Idaho**

STATUS: Non-docket. Non-NPL.

NARRATIVE: This site was above a campground and was high in arsenic. The quantities were approximately 1500 cubic yards. The time critical action included removal of the waste material.

FY 1999 WORK: Waste was removed and placed in a repository. Monitoring is planned for
2000 and 2001.

FACILITY: **Jack Waite Mine Site, Idaho Panhandle National Forests, Coeur d'Alene, Idaho**

STATUS: Non-docket. Non-NPL.

NARRATIVE: This site is primarily on National Forest Systems lands with some private. The waste consists of waste piles, four tailings impoundments, adit discharge and associated rail system. This is a joint action with EPA Region 10 and the Forest Service.

FY 1999 WORK: An Administrative Order on Consent (AOC) negotiations with ASARCO and the Jack Waite Mining Company was started. Water quality monitoring was also started. Planned work for 2000 is to finish the AOC negotiations and start the EE/CA.

FACILITY: **Gold Creek Mine Complex, Idaho Panhandle National Forests, Coeur d'Alene, Idaho**

STATUS: Non-docket. Non-NPL.

NARRATIVE: The Forest Service started watershed characterization of the Gold Creek drainage due to concerns with a delta forming in Lake Pend Oreille with elevated levels of arsenic and other metals. The PRP searches were started and the FS began cooperative work with EPA Region 10 and the State of Idaho concerning the contamination in Lake Pend Oreille.

FY 1999 WORK: Forest Service finished the initial characterization and the initial PRP searches. The planned work for 2000 is to send out information requests the PRPs and the finalize characterization of the drainage.

FACILITY: **New World Mining District, Gallatin National Forest, Bozeman, Montana**

STATUS: Non-docket. Non-NPL.

NARRATIVE: This site was a proposed gold mine above Yellowstone National Park. The US Government agree to purchase the proposed mine for $65 million and in the settlement, a fund of $22.5 million was established by the mining company for cleanup of past mining wastes. The EPA Region 8 started water quality characterization in 1998 with establishing several wells and working with USGS on Fisher Creek surface water characterization.

FY 1999 WORK: The finalization of the mine acquisition and settlement was completed and the lands were transferred to the jurisdiction of the Forest Service. The FS was designated as lead agency with EPA, DOI, and Montana Department of Environmental Quality as supporting agencies. The work in 1999 consisted of public involvement in the project, characterization of the various sources of metals, improvements to road systems and determining where waste could be properly managed.

FACILITY: **Mike Horse Mining District/Upper Blackfoot River Mining Complex Site, Helena National Forest, Helena, Montana**

STATUS: Non-docket. Non-NPL.

NARRATIVE: The ASARCO and ARCO companies have implemented cleanup work at the site on private lands using a voluntary action under the Montana Department of Environmental Quality oversight. The waste on National Forest Systems lands has basically been ignored. The Forest Service has completed the PRP search and determined that ASARCO and ARCO are responsible parties and have been in discussions with them.

FY 1999 WORK: Meetings were conducted with ASARCO and ARCO concerning entering into an Administrative Order on Consent to characterize the waste sources and begin the EE/CA. In 2000, it is anticipated that an AOC will be negotiated and the EE/CA started.

U.S. FOREST SERVICE
REGION TWO

FACILITY: **Little Bear Creek, Arapaho Roosevelt National Forest**
Ft. Collins, Colorado

STATUS: Non-Docket. NPL (Non-federal facility). The site is located with the Central City NPL Site. Work is being cooperatively undertaken by the Forest Service, the EPA, and the Colorado Department of Health on a non-time-critical removal action.

NARRATIVE: The Little Bear unit falls within the Clear Creek Superfund area, which consists of three operable units. The site has both environmental degradation and physical hazards that require remediation. The environmental hazards include the mine dump, composed of sulphide-bearing waste rock, and high- acid mine drainage leaking from one of the adits. On October 14, 1993, the Department of the Interior took water samples to characterize the surface water system at the site. The results showed acid mine drainage was contributing metals to Little Bear Creek.

FY 97-99 WORK: A remediation plan has been approved and cleanup has been completed. Monitoring will continue through 2000.

FACILITY: **Lion Creek, (Minnesota Mine), Arapaho Roosevelt National Forest**
Ft. Collins, Colorado

STATUS: Non-Docket. NPL Site (Non-Federal). The site is within the boundaries of the Clear Creek NPL site. This is a cooperative effort between the Forest Service and the EPA. A non-time-critical removal action is ongoing.

NARRATIVE: The Lion Creek Mine is part of the Clear Creek Superfund NPL site. The EPA recently collected samples from the Lion Creek drainage to evaluate metals loading. The samples indicate that the Minnesota Mine is contributing to the degradation of water quality. The EE/CA is complete. A PRP search was completed in late 1994. The PRP search indicates that approximately 50 percent of the land area covered by the Minnesota Mine's tailings pile is owned by private parties pursuant to patented mining claims. The EPA hs

conducted an ability to pay analysis and does not consider the private parties viable. The remainder of the area consists of unpatented claims or land that is not the subject of any claim.

FY 97-99 WORK: Removal action plans and specifications are complete. The on-the-ground removal is complete. Monitoring and O&M will continue through 2002.

FACILITY: **Bonanza Mining Area, Rio Grande National Forest**
Monte Vista, Colorado

STATUS: Docket. Non-NPL. (Listed on the September 1991, docket). Four (4) PRP-conducted voluntary removal actions have occurred.

NARRATIVE: The site was a lead/zinc/silver mining district circa 1880-1930 with substantial quantities of tailings deposited on both Federal and private lands in and adjacent to Squirrel and Kerber Creeks and with significant drainage from an adit. In 1991, a PA was completed, and a SI has also been done for the site. Notification and CERCLA Sec. 104(e) Information Request letters were sent to Forest Service-identified PRPs starting in December 1992, and a PRP committee was formed. A non-time-critical removal of 32,000 yards of tailings was conducted at the Rawley 12 Millsite Operable Unit in 1994, in conjunction with State-permitted activities on adjacent private lands, and a time-critical removal (treatment and discharge) of 157,500 gallons of pond water was conducted in 1995 at the Superior Millsite Operable unit.

FY 97-99 WORK: Removal action on the Superior Mill site and work on the Cocomongo Operable Unit have been completed. CERCLA removal actions by private parties at the Rawley and Superior Operable Units are now substantially complete. Monitoring and O&M will continue for at least the next 5 years by the PRP. Preliminary work on the Minnie Lynch Orphan Site started.

FACILITY: **Nemo Ethylene Dibromide Disposal Site, Black Hills National Forest**
Custer, South Dakota

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Nemo Work Center Dump sites are located just west of the Forest Service Nemo Work Center in Nemo, South Dakota, and cover an overall area of approximately 20 acres. The site includes four backfilled dump sites that have a combined area of 0.23 acre.

The Nemo Work Center has been used for years by the Forest Service in administering the surrounding National Forest. The work center has seen continued activities for at least the past 50 to 75 years. In the past, it was common practice for dump sites to be located near the work centers to dispose of excess or damaged materials. The Forest Service used the four pits to dispose of excess and damaged equipment, tools, and materials during the 1970's. The Forest Service was also spraying the forest with ethylene dibromide and Lindane mixed with diesel fuel in an effort to control the pine beetle. Excess spray in 5-gallon fuel cans was reportedly buried in the pits.

FY 97-99 WORK: Time-critical removal action under way. Removal Preliminary Assessment completed and removal contract awarded. Contamination of seven private wells discovered. Construction of an alternative water system was completed. Ground water investigation completed. Memorandum of Understanding with State of South Dakota completed, ongoing monitoring.

FACILITY: **Gunnison Penta Sites:**

Cement Creek,
Pitkin GS,
Old Agency GS,
Roper Work Center,
Delta Work Center,
Grand Mesa, Uncompahgre, and Gunnison National Forests
Delta, Colorado

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Six sites on the Grand Mesa, Uncompahgre, and Gunnison National Forests in southern Colorado that had been used for treatment of wood posts were cleaned up. Product residue in dip tanks.

FY 97-99 WORK: Tanks and some contaminated soil were removed and disposed of. Removal action at Cement Creek and the Delta Work Center has

been completed. Follow-up soil sampling at Pitkin GS and Roper Work Center discovered new areas of contaminated soil. Investigation at Old Agency discovered 2-4D contaminated soil. Cleanup has been scheduled for FY 2000.

FACILITY: **Woodland Park Work Center, Pike and San Isabel National Forest and Pueblo, CO.**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: This is an extensive soil contamination area as a result of an old Pentachlorophenol post treatment operation. The site also has two old dump areas scheduled for cleanup. There is an ongoing CERCLA removal action as well as a RCRA cleanup pursuant to a consent order with the State of Colorado. The site is located adjacent to the town of Woodland Park with residential areas around it.

FY 97-99 WORK: CERCLA action ongoing. Soil and ground water studies 90% complete. Three ground water wells completed and two rounds of testing complete. One-two more years of monitoring expected. Cleanup scheduled for FY 2000.

FACILITY: **Elk Mountain District Uranium Mining Area, Blue Lagoon Mine, Black Hills National Forest, Custer, South Dakota.**

STATUS: Non-Docket. Non-NPL. The PA and SI have been completed. Removal action ongoing.

NARRATIVE: Waste rock and tailings from uranium mining are eroding into the adjacent creek. The mined area is trapping water. Currently, radioactive waste is migrating into the adjacent drainage. The PA has been completed. A PRP search is ongoing.

FY 97-99 WORK: PA, SI and Design completed. Cleanup contract scheduled for FY 2001.

FACILITY: **Minnesota Ridge Mine, Black Hills National Forest, Custer, South Dakota.**

STATUS: Non-Docket. Non-NPL. No viable PRP.

NARRATIVE: The site is a former gold mine which operated on and off from the late 1870's to the early 1940's. There is one draining adit, pH 2-3, and a waste rock pile partially located in Gimlet Creek. Gimlet Creek is a subsidiary of Rapid Creek.

FY 97-99 WORK: PA, SI, and EE/CA completed. Design for removal action under way. Non-time critical removal action scheduled for FY 2000.

FACILITY: **Upper Animas Abandon Mine Watershed Restoration Project, Colorado**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The watershed area consists of a series of mines located on Private as well as National Forest System lands. The cleanup effort is based on a total watershed approach. The BLM also has a large watershed effort in the area. Seven mines/areas are being studied. The sites consist of waste rock pits, tailings, and draining adits. An Animas River Stakeholders Group has been formed with the Forest Service as a member.

FY 97-99 WORK: PA's have been completed on all seven sites. SI's have been completed on two sites. PRP searches are ongoing with one being completed. EE/CA's are scheduled for FY 2000 as well as one removal action at the Bonner Mine.

U.S. FOREST SERVICE
REGION THREE

FACILITY: **Cemetery Tract Pistol Range, Santa Fe National Forest**
Santa Fe, New Mexico

STATUS: Non-Docket. Non-NPL.

NARRATIVE: This site was used by Los Alamos National Laboratory from the 1940's to the 1960's for small-arms target practice. The site was released back to the Forest Service in 1976. The shooting range was included in a tract of land that was to be exchanged between the Department of Energy and the Forest Service but was removed from the exchange package because of concerns with building residences on the lead-contaminated site. CERCLA 104(e) requests for information were sent to the Department of Defense and the Department of Energy in 1992. The Department of Energy acknowledged responsibility for the shooting range and initiated a voluntary cleanup action in 1993 to reduce the level of lead in berms to allow the property to be used for residences. Although the shooting range site is planned for exchange, this has not occurred.

FY 97-99 WORK: Approximately 4,200 cubic yards of contaminated soil was excavated, washed, and removed from the site in FY 1996. An additional 4,200 cubic yards remains at the site and was removed in FY 1997.

The DOE has cleaned up the site, and is now awaiting clearance from the State.

FACILITY: **Hassayampa/Lynx Creek Mines, Prescott National Forest**
Prescott, Arizona

STATUS: Docket. Non-NPL.

NARRATIVE: The Hassayampa/Lynx Creek Abandoned Mines site consists of 11 mines, some of mixed ownership. Many of the mining-waste dumps and tailings piles are located in riparian environments along stream banks. The site was identified as a potential hazardous substance site and entered into the CERCLIS on January 11, 1991. A report, "Assessment of Abandoned Mines and Mills of the Prescott National Forest," completed on October 18, 1990,

prompted the Southwestern Region of the Forest Service to send the report to the EPA as this site may have the potential to adversely affect the environment. The PA was sent to the EPA, Region 9, in October 1990. In a May 3, 1994, letter, the EPA stated that the PA requirements have been met and requested more information. The Forest Service responded to the EPA letter on June 3, 1994, stating that we are proceeding to voluntarily supply the information if possible. In 1995, a PRP search and a Phase I Removal Action Site Investigation were completed via contract.

FY 97-99 WORK: Analysis of SI and discussions with the Arizona Department of Environmental Quality have resulted in a determination that the majority of the problems are on private land and are not significantly impacting National Forest System land. Volumes of material are drastically different than what was presented in original PA. No further action planned at this site at this time.

FACILITY: **Mansfield Canyon Mines, Coronado National Forest**
Tucson, Arizona

STATUS: Non-Docket. Non-NPL. A PA was completed on January 31, 1994. The PRP search was completed in 1995 via contract and a Natural Resource Damage Preassessment was completed in 1994.

NARRATIVE: The area is known as Mansfield Canyon Mines near Nogales, Arizona. Mining operations at 34 sites occurred between 1880 and 1950. During that time, large volumes of waste rock and mine tailings were generated in and along stream tributaries of the Mansfield Canyon, Temporal Gulch, and Piper Gulch watersheds. The sulfide minerals contained in the waste rock and tailings can react with meteorologic forces to form acids. Both the acids and metals are capable of entering surface water and groundwater. Potential groundwater contamination exists in water-filled adits and shafts; a domestic well located adjacent to the site is hydraulically connected to suspected contaminated groundwater at site; acidic leachate is produced at site; releases to the air are suspected; and there are three endangered bat species at the site. The Forest Service completed a PA on January 31, 1994. Several mines are suspected of releasing heavy metals. The HRS score is 43.

FY 97-99 WORK: PRP negotiations began in 1997 and are ongoing. Other completed actions include: mapping, Community Relations Plan, Action

Memo, and EE/CA. The EE/CA was made available for public comment in 1998 and the Technical Response to Comments for the EE/CA were drafted in 1999.

FACILITY: **Coconino Hydrochloric Acid Spill Time Critical Removal Action Coconino National Forest, Flagstaff, Arizona**

STATUS: Non-Docket. Non-NPL

NARRATIVE: A private transporter had an accident that resulted in a spill of hydrochloric acid on State Route 87. Cleanup was completed by the State of Arizona in 1997. No further action required.

FACILITY: **San Mateo Mine, Cibola National Forest**
Grants, New Mexico

STATUS: Docket. Non-NPL. (Listed on the August 1990, docket.) A draft Community Relations Plan was developed in 1996. An Action Memo and EE/CA will be developed in 1997.

NARRATIVE: This site is an inactive uranium mine with large quantities of mine-waste materials present. Degradation of surface and shallow groundwater quality is the result of erosion and leaching of these mine-waste dumps. Elevated amounts of radium-226, uranium, molybdenum, and gross alpha and beta particle activity were detected in both surface and shallow groundwater down gradient from the eroding mine-waste dump sites. A site assessment was conducted in June 1989, the SI was completed in 1993.

FY 97-99 WORK: Non-Time Critical Removal Action Memorandum completed. In cooperation with the Forest Service, the National Park Service conducted a Site Assessment to further evaluate the nature and extent of surface physical disturbance, and develop conceptual reclamation alternatives.

FACILITY: **Tonto Asbestos Roads, Tonto National Forest**
Phoenix, Arizona

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Approximately 10 miles of road were surfaced with asbestos rock. These roads are located in a formerly active asbestos mining district where large deposits of chrysotile are located. During mining operations, waste rock containing chrysotile may have been applied as surfacing material for the mine haul roads. Airborne asbestos (from vehicular traffic and wind) may pose a risk to human health and the environment. A proposal for the PA for the Tonto Asbestos Roads was completed in 1997.

FY 97-99 WORK: A final round of sampling was conducted in 1997, which should allow the site to be closed with no further action required.

FACILITY: **Nacimiento Mine and Mill Site, Santa Fe National Forest, Cuba Ranger District**
Cuba, New Mexico

STATUS: Non-Docket. Non-NPL. The PA was completed in January 1987, SI was completed in September 1989, and expanded SI was completed in June 1994 by the New Mexico Environment Department. The HRS score is less than 28.5.

NARRATIVE: This mixed-ownership site covers about 500 acres 3.5 miles southeast of Cuba, NM. Onsite features consist of a flooded open-pit copper mine and associated mill, abandoned tailings pile and pond, mine spoils piles, low-grade ore dumps, and an abandoned in-situ leaching operation regulated under a New Mexico Environmental Department Discharge Permit. Deep erosion channels and areas lacking in vegetation are found across the site. There are three surface-water courses potentially affected by releases from the site. Elevated copper has been found in sediments of two of these. The tailings pile and pond are on State and possibly private land; the spoils piles and low-grade ore piles are on State, Forest Service, and private lands; the open pit is partially on Forest Service land with the remainder a patented claim; and the in-situ leaching operation is on Forest Service land. Property to the west and southwest is residential, and the property to the north, east, and south is uninhabited forest land. The in-situ leaching operation involved the injection of sulfuric acid, ferric sulfate, ferrous sulfate, and aluminum sulfate solution (estimated to be as much as 1.7 million gallons) into the underlying sandstone formation for recovery and processing at an onsite solvent extraction

electrowinning plant. The leaching solution was injected underground, but none of the pregnant solution has been recovered. The injection wells have not been properly abandoned or plugged. The 3-million-cubic-yard tailings pile contains arsenic, copper, and zinc. The 172,000-cubic-yard low-grade ore pile contains arsenic, copper, lead, and zinc. The 678,000-cubic-yard mining overburden (spoils) pile contains arsenic, chromium, copper, lead, selenium, and zinc. None of these piles are lined or covered. None has surface-water diversion structures. In 1995, a landline survey was completed on the tailings pile. A PRP search was completed in FY 1996. PRP negotiations were also begun in FY 1997 and are ongoing.

FY 1999 WORK: Currently working with the New Mexico State Land Office, the New Mexico Environment Department, and Environmental Protection Agency – Region 6 to initiate the preparation of the EE/CA.

FACILITY: **St. Patrick/Sunset Mines/Pena Blanca, Coronado National Forest**
Tucson, Arizona

STATUS: Docket. Non-NPL.

NARRATIVE: The St. Patrick and Sunset Mines are located in Pena Blanca Canyon, which drains into the Pena Blanca Lake and Recreation Area located 1.5 miles downstream of the mines. In 1995, the Arizona Department of Environmental Quality and the Arizona Department of Game and Fish conducted tests that revealed mercury contamination in fish and in sediment in the lake. There is both an immediate and potential risk to humans of exposure to mercury- and/or lead-contaminated fish. In 1996, a PRP search and PA were completed. The Forest personnel are working with Arizona Game and Fish to address the potential source of contamination

FY 1997-99 WORK The investigation was conducted at this site in FY 1997. PRP negotiations began in FY 1997. A Time Critical Removal Action was completed at the Pena Blanca site to remove mercury contamination.

FACILITY: **La Bajada Mine, Santa Fe National Forest**

Santa Fe, New Mexico

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The La Bajada Mine or the Lone Star Mine is located in the Santa Fe River Canyon, approximately 2.5 miles upstream of the small town of La Bajada. The mine workings consist of a small pit just north of the river. This pit is flooded; the area of the resulting pond is about 1 acre. In addition, dumps and other disturbed areas stretch along the river both east and west of the pit. The total disturbed area is estimated to be 15 acres. Previous treatment performed by the Forest Service consisted of grading selected portions of spoil and ore piles to bury radioactive material emitting more than 70 micro roentgens per hour (uR/hr), with 1 foot of overburden material reading 35 uR/hr or less and available on site, and seeding all project areas. A contract was awarded in 1995 to begin final site cleanup. In 1995, about 50 percent of the pond cover excavation was completed and most of the work to place bales and riprap for arroyo protection was completed.

FY1997-99 WORK: Phase II and III work were completed including: sealing the pond, covering the remaining material, and additional stabilization work and riparian planting.

FACILITY: **Regionwide Illegal Dumps, Region 3**
Albuquerque, New Mexico

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Bell Rock, 89 North, Cottonwood Basin, Rocky Mountain Research Station hazardous waste disposal: Time-critical removal action for drug-lab cleanup and hazardous waste disposal. No involvement by other parties. No work anticipated in FY 1997. Projects are completed.

FACILITY: **Rattler/Duncan Mill Site, Tonto National Forest**
Payson, Arizona

STATUS: Docket. Non-NPL.

NARRATIVE: The Rattler Mill site is located approximately 20 miles south of Payson within a historical mercury mining district. The Mill site was periodically operated from approximately 1953 to 1972. It is currently inactive and consists of crushing equipment, flotation systems, a furnace with dryers, a boiler, thickener tanks, diesel tanks, mixing tanks, a laboratory, a powder magazine, an unlined tailings impoundment, ore reserve piles, mercury processing equipment, water wells, landfills, and residential facilities. Total facilities occupy approximately 6 acres. Soil samples have shown elevated levels of mercury and lead when compared with background samples. An EE/CA was implemented in 1998. The estimated completion date for this project is 2001.

The State of Arizona and PRP negotiated for voluntary compliance based on corrective actions as indicated by the State in February 1993. A Cease and Desist Order (Docket No. D-45-93) was issued by the State to the Rattler Mill site in August 1993 due to violations of the provisions of the Arizona Revised Statutes. There has been no further action taken by the State. In 1996, a Removal Site Characterization/PRP Search was initiated and was completed in 1997.

FY1997-99 WORK: The site was fenced and the well was secured.

FACILITY: **Richey Millsite, Tonto National Forest**
Payson, Arizona

STATUS: Docket. Non-NPL.

NARRATIVE: The Richey Mill site is an inactive cyanide heap-leaching operation. Milling operations were active for a short period in the mid- to late 1980's. Cyanide heap leaching was conducted in the early 1980's. Pads and ponds associated with the cyanide operation occupy approximately 2 acres. A portion of the Mill site was utilized for equipment repair; stained soils are present throughout this area

FY1997-99 WORK: The Preliminary Assessment was completed and additional mercury sampling was conducted at the site.

FY 1999 WORK: A Risk Assessment was initiated. A PRP search was initiated.

FACILITY: **Sabino Canyon Shooting Range, (Tucson Rod & Gun Club), Coronado National Forest, Tucson, Arizona**

STATUS: Docket. Non-NPL.

NARRATIVE: Under a Special Use Permit, the Tucson Rod and Gun Club operated this site for more than 50 years. The target range is located within the Sabino Canyon Recreation Area, which receives more than 1.2 million visitors annually. There are six rifle/pistol ranges and one shotgun range for clay pigeons. The range is approximately 100 feet from the primary administrative access road to the canyon and approximately 500 feet from the main public access road and trail. Lead and other hazardous substances, primarily from the shotgun range, are being transported over the ground surface and into the washes via surface runoff. The lead has penetrated the sandy washes to a depth of approximately 8 inches and is moving down the wash. This site has been closed for a number of years because of safety concerns over bullets leaving the permit area.

FY1997-99 WORK: The Removal SI and the EE/CA were completed. The EE/CA has been available for public comment and review. All public comments are being reviewed, addressed, and responded to in a Technical Response to Comments report.

FACILITY: **Patagonia Mines, Coronado National Forest Patagonia, Arizona**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: This site encompasses four mines: Alum Gulch Mines (Panama Mine and World's Fair Mine), Four Metals Mine, and Ventura Mine. These four mines were identified as four of the six worst mine sites on the Coronado National Forest by the Bureau of Mines Inventory in May 1994. All four mines are upstream of the town of Patagonia, Arizona, which has a population of approximately 5,000. The contaminants of concern are copper, zinc, cadmium, cobalt, and manganese. The pH levels range from 1.6 to 2.6. There are also possible explosives and toxic chemicals located at the mine sites. Site Characterization was completed in 1996.

FY1997-99 WORK: An interagency agreement with the US Geological Survey (USGS) for the production of the Preliminary Assessment was initiated and

the USGS has commenced the sampling and analysis for the production of the Preliminary Assessment.

FACILITY: **12th Street Yard, Cibola National Forest**
Albuquerque, New Mexico

STATUS: Docket. Non-NPL.

NARRATIVE: This property was used for 35 years for staging equipment, equipment maintenance, and warehousing of pesticides and herbicides, chemical additives, dry goods, fuels, and other goods. All buildings were removed from the subject property in 1995 and 1996. The concrete pads from these buildings remain on the property. Two monitor wells are on the property. This property is part of a land exchange to be completed in FY 1997. The Phase I assessment was completed in FY 1996. Groundwater monitoring wells exist at this site and testing results have not shown contamination. No further action required at this site.

FACILITY: **Jordan Road Shooting Range, Coconino National Forest**
Sedona, Arizona

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Jordan Road Shooting Range is located on approximately 5 acres within the Mormon Canyon Drainage. The site is located near Sedona, Arizona, approximately 0.5 mile north of Park Ridge Drive on the Brins Mesa trailhead. The site has been used as a target range since the late 1940's or early 1950's and has been permitted to several different groups. The primary use of the range is trap and skeet shooting. In the past, the range was used for all types of firearms, including pistols, big-game rifles, and shotguns. The contaminant of concern is lead. The range lies on both sides of Mormon Creek and there are lead bullets and skeet targets within the normal dry creek bed as well as on both sides. Camp, Dresser, and McKee Federal Programs are currently in the process of determining the extent of lead contamination. A Removal Site Investigation was completed in FY 1996.

FY 97-99 WORK: The EE/CA is complete. The Community Relations Plan will be completed in FY 2000. The EE/CA will be made available to the public in FY 2000.

FACILITY: **Pecos Campgrounds Access Roads, Santa Fe National Forest Santa Fe, New Mexico**

STATUS: Docket. Non-NPL. (Listed on the September 1991, docket).

NARRATIVE: Mine waste-rock from the old Pecos Mine was used for surfacing Forest Service roads and campground loop roads. Erosion and mobilization of heavy metals caused a die-off of vegetation and possible release of contaminants into the Pecos River and other adjacent streams. Testing by the Santa Fe National Forest and the New Mexico Environment Department confirmed the concentrations of heavy metals above regulatory levels in mine wastes. A removal action was initiated in the fall of 1991 and was completed in October 1995. The initial phase of the removal action involved the construction of a temporary repository for the mine waste material removed from Jack's Creek Trail head. In the second phase of the removal action, a dust palliative was applied to the access roads to reduce exposure to dust and to provide some sealing from moisture penetration. Two separate contracts were awarded in 1993 and 1994 to complete the removal action on Forest Road 555 to Jack's Creek Campground, Forest Road 121 to the Winsor Trail head, and Forest Road 305 to the Panchuela Campground. The work in these contracts involved the removal of off-road contaminated "plume" areas for placement on existing roads followed by neutralization and stabilization of the acidic mine waste with a lime slurry mixture and the sealing of the roads with an asphaltic cap. Removal contracts awarded in FY 1993 and FY 1994. Removal actions completed in FY 1995. Final project report completed in FY 1997. No further action required.

FACILITY: **Shuree Ponds Diesel Spill; Carson National Forest Taos, New Mexico**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: This site is an Administrative Site acquired through a donation from Exxon. Diesel leaks and spills resulting from an old generator that

provided power to the site. Leaks and spills occurred over a number of years (40+) originating with previous owner. Pennzoil deeded site to U.S. Government in 1982 as part of 100,000 Valle Vidal unit. Soils and shallow groundwater have been contaminated with petroleum products; soils up to 18,000 ppm TPH and groundwater up to 190 ppb napthalene, both exceeding state standards. Significant threat to adjacent surface waters. Preliminary site assessment completed in FY96 including drilling three monitor wells.

FY 1997-99 WORK: Soil was excavated and placed in two separate bioremediation pads. Additional diesel contamination of both soil and groundwater still remains at the site, and one off-site bioremediation pad located at a shale borrow-pit approximately two and one-half miles from the site. The pads have been mixed using heavy equipment in order to advance the natural attenuation process. Monitoring is ongoing. This site is scheduled for final cleanup in FY 2000**.**

FACILITY: **Sycamore Creek Used Oil Spill; Tonto National Forest Phoenix, AZ**

STATUS: Non-Docket. Non-NPL

NARRATIVE: On July 15, 1998, a tanker truck carrying approximately 7,000 gallons of used oil mixed with diesel fuel overturned on State Highway 87. Approximately 2000-3000 gallons of this oil/fuel mixture spilled into Sycamore Creek and impacted a reach approximately 500 feet long. This section of creek runs through the Tonto National Forest. The site was cleaned up. No further action required.

FACILITY: **Grantham Cabin Lead Soil Removal; Tonto National Forest Phoenix, AZ**

STATUS: Non-Docket. Non-NPL

NARRATIVE: This site consisted of buildings that were contaminated with lead. The cleanup removal included the removal of the lead contaminated material – ash, wood, and soil. The cleanup was completed. No further action required.

FACILITY: **BHP Spill; Tonto National Forest; Phoenix, Arizona**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: This was a Time-Critical Action for the emergency response to the BHP/Pinto Valley Mine tailings failure that occurred on October 22, 1997. The site is defined as the area of the Pinto Creek Watershed that was affected by the BHP Copper Pinto Valley Mine slope failure. The release was reported to the National Response Center and assigned NRC Report Number 408-881. The mine tailings contained high levels of metals such as as copper, cadmium, and zinc which were all released from the BHP Copper facility onto the Pinto Creek Watershed. The BHP Copper Pinto Valley mining area is on, or adjacent to, the Tonto National Forest. The BHP Copper Pinto Valley Mine has been in operation since the early 1970's. The release of mine tailings and sediments occurred in an intermittent stretch of Pinto Creek, approximately a mile upstream from a perennial reach and 20 miles upstream from Roosevelt Lake. Pinto Creek is a tributary to Roosevelt Lake, which is the municipal water supply for the 1.7 million residents in the Phoenix Metropolitan area.

FY1998-99 WORK: The PRP, BHP Copper, Inc., cleaned up the site pursuant to a CERCLA Sec. 106 AOC. Forest Service On-Scene Coordinator and staff conducted the oversight of the cleanup. Final On-Scene Coordinator report completed.

FACILITY: **Gobernador Administrative Site; Carson National Forest; Taos, New Mexico**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Gobernador Ranger Station was once the Jicarilla District Office and the residential compound. Several areas had potential hazardous waste, primarily the ground outside of the warehouse was used as an oil sump over the years, and a landfill above the horse pasture was used from 1970-78 for disposal of solid wastes. The closest resident is over 2 miles away. The landfill could potentially affect the groundwater. In 1999, Congress considered the

conveyance of the Jicarilla Administrative site to the San Juan College.

FY 1999 WORK: The Removal Preliminary Assessment and the Phase I Assessment were completed. The cleanup and removal will be completed in FY 2000.

FACILITY: **Red River Watersheds: Bitter Creek, Placer Creek, Pioneer Creek, and Hot N' Tot Drainage; Carson National Forest Questa, New Mexico**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: In 1998, the National Park Service completed an Abandoned Mine Inventory for the Carson National Forest. As a result of that inventory, several mines were identified that had the potential for hazardous substance releases in four sub watersheds that terminate in the Red River, a major tributary of the Upper Rio Grande. The Placer and Pioneer Creek Watersheds are littered with abandoned gold mines.

FY 1998 WORK: The Removal Preliminary Assessment was initiated.

FY 1999 WORK: The review of the Draft Removal Preliminary Assessment (RPA) was initiated. The final RPA should be completed in FY 2000.

FACILITY: **Parsons Mine; Lincoln National Forest**
Alamogordo, New Mexico

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Some of the parcels at this site were identified as a purchase proposal by the Forest Service. The Phase I Environmental Site Assessment was completed in 1998 for this site. The assessment determined that some of the parcels would require a cleanup action prior to any land purchase. There are five patented mining claims involved in the Parsons Mining Company purchase proposal. The Phase I Environmental Site Assessment addressed only three of those claims (Hopeful Mill Site, Thrifty Mill Site, and Hopeful Lode).

FY 1998 WORK: The Phase I Environmental Site Assessment completed.

FY 1999 WORK: No land purchase has occurred. A Preliminary Assessment is planned for FY 2000 to review if any contamination has migrated to the adjacent National Forest System land.

FACILITY: **Turkey Creek Watershed; Prescott National Forest**
Prescott, Arizona

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Turkey Creek sites are easily accessible to the public for recreational use and prospecting/mining. It is located approximately 2 miles east of Cleator and is easily reached by automobile via Crown King Road. All of the tailings piles are located on, or in, drainages that are tributaries to the Agua Fria River. The watershed includes several grazing allotments, and population centers at Black Canyon City and the town of New River, north of the city of Phoenix.

At all of the sites, direct ingestion and inhalation of hazardous materials by humans, cattle and wildlife is possible at the tailings piles and immediately downstream from the piles.

Because the sediment in the tailings is very fine-grained, it is easily mobilized by wind. Cross-bedding of tailings sand and clay indicates ongoing sorting of the sediment by wind. The prevailing wind direction in the area is from the south, blowing the fines towards populated private land to the north and to State Highway 69, and also (in the case of the Golden Turkey tailings pile) into the adjacent Turkey Creek drainage.
A Preliminary Assessment for the Golden Belt Mine was done in 1991. An expanded Removal Preliminary Assessment (RPA) to address the entire watershed has been initiated.

FY 1998 WORK: The RPA was initiated.

FY 1999 WORK: The RPA was completed.

FACILITY: **Promontory Butte Mine Site; Tonto National Forest**

Phoenix, Arizona

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Promontory Butte Uranium Mine or Claims is located on the Payson Ranger District of the Tonto National Forest. The site is located in heavily timbered Ponderosa Pine one mile north of State Highway 260 and 17 miles east of Payson, Arizona. A boy's camp is located at this junction, immediately downstream from the mine. The area receives 20-25 inches of rain per year. The first claims for the site were filed in 1955. The pit was first opened in 1968-1969. The ore body in the area of the pit was determined to be small but rich. More ore was exposed in the late 1970's. No reclamation has been done to date and the ore is still exposed and has been tested by EPA to be at levels of concern. The cut face of the north side of the pit has uranium exposed in a 5-6 wide band with both black and the more weathered yellow ore. The uranium ore is readily observed in the piles around the site. The area covers over ten acres.

FY 1999 WORK: The Preliminary Assessment has been completed.

FACILITY: **Black Goose Mine Site; Cibola National Forest**
Magdalena, New Mexico

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Black Goose Mine and Mill Site (Site) is an inactive manganese mine located on the Magdalena Ranger District, Cibola National Forest. Forest Service records indicate that a hazardous substance release has occurred or is occurring, or a significant threat of a release exists, at the Site. It is located in T. 4N., R.4W., Section 34, in Socorro County, New Mexico. The Site is on the South Baldy USGS quad, and has an elevation of 6,800 feet, in foothill terrain, at an average slope of 11° to 35 °. The mill has been dismantled, only foundations remain. There are mill tailings present on site, and there is a quarry with a 10 feet high wall. The site drains into Hardy Canyon, which flows into Milligan Gulch, which ultimately flows into the Rio Grande at Elephant Butte Reservoir. The threat to human health and the environment is from hazardous substances contained in 19 containers of extracted ore currently located at the Site. The containers contain detectable

concentrations of metals and cyanide. The highly deteriorated condition of the containers have released a manganese compound to the environment.

FY 1999 WORK: The Removal Preliminary Assessment has been initiated, and will be completed in FY 2000.

FACILITY: **Esperanza Mine Site; Carson National Forest**
Taos, New Mexico

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Esperanza Mine is an inactive mine located on the Questa Ranger District of the Carson National Forest. The site is at an elevation of 9,280 feet, approximately 3.5 air miles northeast of the town of Questa, in Taos County, NM. There is one open adit, two partially collapsed adits and one cut/open pit at the site. A jeep road accesses the site, and there are residences outlying Questa within a mile from the site. Evidence at the site suggests campers and picnickers frequent the site. The mine portals are unstable or collapsed. There is potential for contamination from the site to impact area drinking water wells. There are drinking water wells within a 4-mile radius of the site, including water supply wells for the village of Questa. It is not known whether there are any surface water intakes downstream of the site. Samples taken of the waters draining from the adits indicate a pH of 3.4. There are three large mine waste dumps and several smaller dumps on site. The dumps contain sulfides with large amounts of pyrite. Water draining from the adits seeps through some smaller pyritic dumps, discoloring soils downstream. These form a seep approximately 50' downstream of the site which exhibits orange staining and possibly flows into Peñasquito Canyon during precipitation events. There is indication of stressed vegetation on site.

FY 1999 WORK: The Removal Preliminary Assessment has been initiated and will be complete in FY 2000.

FACILITY: **Double Jerry Mine Site; Cibola National Forest**
Grants, New Mexico

STATUS: Non-Docket. Non-NPL

NARRATIVE: The Double Jerry Mine Site (Site) is an old uranium mine located on the Mt. Taylor Ranger District of the Cibola National Forest. It is in T.12N, R.9W, Section 34, in McKinley County, New Mexico, on the USGS Dos Lomas Quad. The Site is in canyon terrain with slopes up to 10°. The Site is at an elevation of 6,980 feet and can be accessed via a jeep road off State Highway 605, approximately 10 miles NE of Milan, New Mexico. On-site features include a powder magazine, wooden loading structures, a fuel tank, a collapsed incline shaft, a waste dump, mining equipment and trash, and a water well. The Site drains into San Mateo Creek via an un-named drainage.

FY 1999 WORK: The Removal Preliminary Assessment has been initiated and will be completed in FY 2000.

FACILITY: **Silver Creek Mine/Watershed Site; Gila National Forest Mogollon, New Mexico**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Mogollon Mining District was very active from 1860 to WWII. There has been minor activity since then. This mining district covers approximately 1200-1500 acres of once active gold and silver mines. The entire area is drained by Silver Creek. Some of the mines have eroded downhill to Silver Creek. All the common methods to extract these metals were used. Silver Creek is the source of water for the town of Mogollon which has a population of approximately 50 people. There are many open shafts and adits presenting a safety and physical hazard to the public. Some sites are within a mile of dwellings, roads or recreation areas. There is potential hazardous material at some sites: drums, barrels, trash and old mill equipment, and vats.

FY 1999 WORK: The Removal Preliminary Assessment has been initiated and will be completed in FY 2000.

FACILITY: **Matzatzal Mine/Watershed Site; Tonto National Forest Phoenix, Arizona**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Mazatzal Mountains Mercury District is located within both the Mesa and Tonto Basin Ranger Districts of the Tonto National Forest approximately 60 miles northeast of the city of Phoenix and within Maricopa and Gila Counties. The Mercury District extends across the central portion of the Mazatzal Mountain Range covering an area of approximately 30 square miles. Mercury was first discovered in the Mazatzal Mountains in 1911 with production occurring throughout the District during the period of 1925 to 1965. The six major mines in the District are Pine Mountain, Sunflower (or National), Mercuria, Rattler, Rattlesnake and Ord. Additional small-scale operations such as at Cane Springs and Gold Creek were also developed. Two watersheds may be affected by these historical operations, Sycamore Creek watershed to the west, flowing southward to the Verde River, and Slate Creek watershed to the east, flowing to Tonto Creek then to Roosevelt Lake. Both the Verde River and Roosevelt Lake are water supply sources for the metropolitan area of Phoenix, a population center of over 3 million.

FY 1999 WORK: The Removal Preliminary Assessment was initiated and will be completed in FY 2000.

FACILITY: **Bearup Mine Site; Tonto National Forest**
Phoenix, Arizona

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Tonto National Forest carried out an impoundment procedure on the Bearup Mine Site (otherwise known as the Cramm Mountain Claims) in 1999. The OSC conducted a survey for hazardous materials as part of the impoundment procedures. Findings from the survey led to a Time Critical Removal (TCR) for hazardous materials poorly stored throughout the site. Explosives, flammables, corrosives, and cyanide were some of the hazardous materials removed from the site. The State Department of Public Safety Bomb team assisted with the removal of unstable explosives.

There was a cyanide heap leach operation and a leaking diesel generator located immediately above a well in a small drainage. The remaining materials left on site, such as trailers, rusty equipment, etc., will be removed in a salvage sale.

FY 1999 WORK: A Time Critical Removal Action was conducted to cleanup the site of the hazardous materials stored throughout the site.

FACILITY: **Williams Landfill Site; Kaibab National Forest**
Williams, Arizona

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The City of Williams operated this site under a Special Use Permit issued by the USDA Forest Service since 1918. It was a garbage-dump site and was closed in 1973. A cover was never permanently established on the majority of the landfill, portions of cover that did existed have been disturbed and dumping of garbage has intermittently occurred at the site since closure in 1973. The landfill and debris covers approximately 37 acres. In the southern portions of the landfill, refuse ranges from surface scatter to a depth of three feet. The northern two thirds of the landfill has refuse that ranges from three feet to an unknown depth because of lack of records of pre-existing topography. Cataract Creek is the northern border of the landfill; there is refuse in the creek channel, and on the south side of the creek bank is an assortment of exposed garbage. The elevation difference from bottom of creek channel to the top of the bank of garbage is 30 feet. The north side of the creek is a rock bluff that is about the same height. Since the original topography is not known it is difficult to determine the total volume or depth of refuse on the site.

FY 1999 WORK: A Removal Preliminary Assessment was initiated and will be completed in FY 2000.

FACILITY: **Regional Emergency Response**

- **Pine Flats Picnic area; Cibola National Forest**
- **Five illegal meth labs on two national forests in Northern Arizona**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Some small containers of cyanide were discovered at the Pine Flats Picnic Area by Law Enforcement personnel.

Five illegal meth-labs were discovered on two national forests in Northern Arizona.

FY 1999 WORK: The cleanup of some small containers of cyanide were removed from the Pine Flats Picnic area.

The five illegal labs were characterized and removed.

FACILITY: **Tres Piedras Herbicide Spill**
New Mexico

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The site was a result from a herbicides spill of 55 gallon drums that were vandalized while waiting for disposal. Four 55 gallon drums had been discovered, the contents profiled, and were scheduled for pickup by an emergency response contractor in November 1993. Upon arrival at the site, the contractor noticed that the drums had been shot, allowing their contents to spill onto the ground. The drums were packaged for transport and were disposed according to the emergency response contract. The contaminated soils were excavated and stockpiled, eventually placed in a bermed and lined bioremediation pad in January of 1994. There has been no maintenance (aeration and nutrient addition) of the bioremediation pad. The site is located approximately one-half mile northwest of the Tres Piedras Ranger Station. The site is in ponderosa pine forest and borders private land. The site is rural, at an elevation of approximately 8,200 feet above sea level. The site is not secured. A chemical odor can be noticed in the area of the bioremediation pad. The State of New Mexico Environment Department (NMED) Hazardous and Radioactive Materials Bureau was notified in August of 1996. The site was referred to the Ground Water Quality Bureau. The site is located approximately one-half mile northwest of the Tres Piedras Ranger Station.

FY1997-99 WORK: Engineering Evaluation/Cost Analysis and removal completed.

U.S. FOREST SERVICE
REGION 4

FACILITY: **Banner Mine, Boise National Forest**
Boise, Idaho

STATUS: Non- Docket. Non-NPL.

NARRATIVE In 1998 an investigation was initiated to determine the effects of effluent exiting the mine adit. The Banner Mine was located in 1864 by J.H. Hawley (later to become Governor of Idaho). The first work began with construction of a mill in 1876. Mine development continued, as did mining until 1917. Between 1917 and 1933 various individuals and companies were involved with exploration and studies. The property changed ownership numerous times and was finally acquired by National Resources Corporation in 1980. A land survey in 1997, identified facilities thought to be on private land were in fact occupying National Forest System Lands. Among the facilities is a partially collapsed mine adit, which drains effluent into Banner Creek. Banner Creek is tributary to Pikes Fork Creek, a tributary to Crooked River and the North Fork Boise River. The area is also the home to bull trout (*Salvelinus Confluentus*), a threatened and endangered species. In 1998, an investigation was initiated to determine the effects to the fish of effluent exiting the mine adit.

FY 1999 WORK: In FY 1999 a PRP Search was initiated and is currently being reviewed. Initial water sampling indicates the effluent exhibits exceedances of arsenic.

FACILITY: **Bassett Gulch Mill Site, Sawtooth National Forest**
Ketchum, Idaho

STATUS: Docket. Non-NPL. (Listed on the June 27, 1997, docket). A CERCLA Site Investigation was completed in 1999.

NARRATIVE: In 1994, the Idaho Geological Survey completed a survey of the Bassett Gulch Mill site as part of a Forest Service (FS) Region wide inventory effort to identify abandoned and inactive mine sites. The survey indicated that this site had potentially serious environmental problems and suspected releases of hazardous substances. Initial

sampling in 1996, by the FS, showed increase levels of metals in the tailing impoundment.

An On-Scene Coordinator was assigned to the project and an Administrative Record started. Two sampling events indicated the tailings on the site showed high levels in lead. The PRPs were notified and invited to participate in addressing the site.

In 1996, an operator was interested in restarting the mill operation and processing for gold. They submitted a Plan of Operation, which was reviewed by the FS and sent back to the proponent. The request was withdrawn in 1998 because of the CERCLA liability. A PRP was interested in conducting a Site Investigation in 1997, but declined during the AOC negotiations.

A contractor working for the FS in 1999 completed a CERCLA Site Investigation. The investigation concluded that the site would score high enough for consideration to the NPL.

FY 1997 WORK: A Contractor working for the FS in December of 1997 drilled wells on site at four locations to determine groundwater depth. No ground water was found on three of the four drilled. The ground water was found near Warm Springs Creek. No water quality samples were taken.

FY 1998 WORK: No actions taken.

FY 1999 WORK: A contractor for the FS performed a CERCLA Site Investigation in September of 1999. The investigation concluded that the site would score high enough for consideration to the NPL. It also said that further assessments under CERCLA might be warranted. Level II contamination was found in wetlands and Warm Spring Creek. However, no increased levels of metals were found in the drinking water of residences near the site. PA/SI report was started and should be submitted to the EPA in 2000.

FACILITY: **Blackbird Mine, Salmon National Forest**
Salmon, Idaho

STATUS: Docket. (Listed on the December 15, 1989, docket). Originally proposed as a NPL site. A PA/Sampling Inspection was sent to the EPA. This site was nominated in the Federal Register for inclusion

on the NPL in February 1993. The proposed listing has not been finalized; however, it is expected that the site will not be listed on the NPL.

NARRATIVE: A PA/Sampling Inspection was completed and submitted to the EPA for hazard ranking. The Forest Service (FS), the National Oceanic and Atmospheric Administration, and the State of Idaho are three of the natural resource trustees at the site. The Federal Government filed a Natural Resource Damage claim against the PRPs in 1993. The State of Idaho natural resource damage claim filed against the PRPs in the 1980's was combined with the Federal suit. EPA issued a CERCLA Sec. 106 Order against the Noranda Mining Company in 1993, citing an imminent release of hazardous tailings into the West Fork of Blackbird Creek from the failure of the tailings dam sitting in the creek. The undersized creek-diversion culvert going under the tailings has been replaced with a concrete half-round open culvert over the top of the tailings. It was bedded in clay with a geotextile membrane cover and rocks as a final layer. The new Federal judge overseeing the case ruled in October 1994 that the FS was not liable for damages at the site. The natural resource damage suit was settled out of court in early 1995. The PRPs agreed to certain natural resource restoration actions, with the time frames for implementation, and settled with the Trustees for 90 percent of their costs to prepare the resource damage studies. Union Carbide settled out of court with the other PRPs for their share of the damages at the site.

The EPA has taken the administrative lead in overseeing removal and remedial actions at the site. Early cleanup actions were initiated in 1995 with a completion goal the end of 1996. Early cleanup actions included cleaning of water ditches, storage of contaminated mine runoff and subsequent treatment, capping of hazardous mine wastes in-place, moving other hazardous mine wastes to a repository, and rehabilitating the stream channel. Implementing a Remedial Investigation/Feasibility Study (RI/FS) Plan is anticipated, once the early actions are complete, to address any remaining site cleanup concerns. The EPA is doing a risk analysis. It is expected that cleanup actions will be completed by the end of 2000.

The PRPs are implementing various phases of the Natural Resource Damage Assessment Settlement Plan, including land purchases and easements for cattle exclusion from the critical stream habitats and

design of fish traps and acclimation ponds. This work should be completed in the next few years, although additional work may be necessary if water-quality levels are not achieved by 2002.

A Memorandum of Understanding was signed by the Forest Service and the EPA to clarify responsibilities at the site.

FY 1996 WORK: Implementation of the Biological Restoration and Compensation plan is continuing. As part of this, the livestock exclusion element is under way, as well as the site assessment and alternatives analysis for the channel realignment. A review was done of the Panther Creek fish trap/acclimation pond design and cost estimate.

Early actions performed by the PRPs, also called the Blackbird Mine Site Group (BMSG), include the following designs/reports: Waste Rock Removal in the Bucktail Creek Basin; Hawkeye Gulch Groundwater Interceptor and Sediment Trap; 7100 Dam; Diversion Ditch Effectiveness Evaluation; Focused Remedial Investigation and Feasibility Study Work Plan Addendum; Sulfate Behavior in Blackbird Creek; 6850 Adit Extension Work Plan; Blackbird Mine Ecological Risk Assessment; 90% Meadow Creek and Blackbird Creek Waste Rock Cap Design; Upper Bucktail Creek Hydrology Data Summary; 7000 Dam Alternatives Analysis; Operation and Maintenance Plan for the West Fork Creek Tailings Facility; and Wastewater Treatment Plant Design.

Early action construction activities include: construction of various ditches for the effectiveness studies; construction of diversion and sediment control ditches; completion and operation of the two sediment dams in Bucktail Creek; early phases of construction for the 7100 dam; portions of the waste-rock capping effort; phase one of the reconstruction of the 6850 adit; completion of the Upper Bucktail West waste dump removal; early phase of the Bucktail Creek debris removal effort; completion of the sediment dam at the mouth of the Blacktail Pit; and completion of the underdrain system in the Blacktail Pit where the waste is currently being deposited.

For the RI/FS portion of the project, various sampling events were conducted. The Remedial Investigation and Data Summary Report was prepared. Discussions are continuing on the water effects ratio for copper. The BMSG did cobalt toxicity testing and the results are under discussion.

FY 1997 WORK: This year, time was spent on the construction of two dams. One called the 7000-foot Dam located on the Bucktail Creek upper drainage, on National Forest System (NFS) lands and another called the 7100-foot Dam, located on upper Meadow Creek on Noranda Mine property. The 7000-foot Dam is to collect all contaminated waters from drainages above the dam, which include some NFS land and Noranda Mine property. A water pump-back system will collect all of the water, which leaks under and through the dam. The water will be collected at the pump-back system, which will be built in 1998, located below the dam. The pump-back system pumps the water uphill to an adit located near the dam, which is used to carry the water through the mountain and connects with another adit coming from the south side of the mountain. The water is then passed down to the water treatment plant. The 7100-foot Dam collects all of the contaminated water above this elevation and stores it in the dam. It then flows out into a pipe, which runs down Meadow Creek into the Water Treatment Plant. All contaminated waste rock was removed from the NFS lands, located on the West Lobe, and hauled to the Bucktail pit.

FY 1998 WORK: This year involved many projects. The completion of the 7000-foot Dam in Bucktail Creek drainage and the 7100-foot Dam in Meadow Creek drainage. The pump-back system in Bucktail Creek (listed above) and the enlargement of the water treatment plant was completed. All "Clean Water Ditches" which route all of the un-contaminated water around the 7100-foot Dam and passes it to the Meadow Creek concrete flume. The clay and rock capping of Meadow Creek was built to collect all of the clean water from snow melt and rain, which then drains into the concrete flume, which empties into Blackbird Creek. The removal of arsenic contaminated soils on private property located at the Panther Creek Inn, at the junction of Panther Creek and Blackbird Creeks. The contaminated soil was hauled up to the West Fork of Blackbird Creek tailings area for storage. Clean topsoil was hauled back into the Panther Creek Inn area so rehabilitation could occur. The private property was then seeded in late fall. The construction and completion of two small temporary sediment dams located on Blackbird Creek, just above the junction of Panther Creek, to collect any sediment from Blackbird Creek during the over-bank removal of contaminated soil, which will occur in 1999. Another larger sediment dam was built on Blackbird Creek at the intersection of the West Fork of Blackbird Creek. In the fall, hydro seeding occurred on part of the NFS lands located on the West Lobe and part of the 7000 Dam area.

FY 1999 WORK: The EPA installed "Health Advisory- Arsenic Present in Soils" signs along Panther Creek at selected sites, which showed above health recommended amounts of arsenic in the soil. Soil sampling occurred throughout the year, to identify the amounts of arsenic in the soil at selected sites. Over-bank contaminated soil material was removed in selected sites along Blackbird Creek and Panther Creek. These sites included NFS and private property lands. This material was hauled to the West Fork of Blackbird Creek Waste tailings area. The clean backfill material taken to these sites, came from FS approved sites and the topsoil from the Noranda Cobalt Townsite. One of the FS sites was designed as an enlargement area for wildlife, since the arsenic was removed down to the water table. All areas were seeded in the fall. The new wildlife area included the standard seed mix, plus a special riparian seed mix. Cattails were cut from areas close by, and hand seeded, plus some stocks were stuck into the ground to be blown later by winds. Riparian stream bank areas were planted with willows and alders from adjacent areas. This on-going clean up of arsenic contaminated soils along Panther Creek and possibly Blackbird Creek will continue in the year 2000. Hydro seeding in the fall occurred on the following sites: West Lobe of NFS land; 7000 Dam area on Bucktail Creek; 7100 Dam area on Meadow Creek; main road from Meadow Creek to summit; Hawkeye Gulch; West Fork Blackbird Waste tailings and portions of Blackbird Creek where contaminated soil was removed. Approximately eight miles of livestock fencing was completed on private property along the Lemhi River and Big Springs Creek, located west of the town of Leadore. This was a mitigation measure to compensate for injuries to natural resources resulting from conditions at the Blackbird Mine. The BMSG has entered into a court-approved Consent Decree with the United States and the State of Idaho. A component of the Consent Decree is a Smolt Survival Plan that contains a livestock exclusion element. That element is intended to protect and improve riparian habitat of selected stream reaches on private lands by cooperating with the landowners to exclude cattle from the reaches, thereby, allowing recovery of the riparian habitat. This is one of the highest quality sites for salmonid spawning and rearing habitats. In year 2000, another proposed two miles of livestock exclusion, on critical salmonid spawning and rearing habitats, should be finalized. This is located on private property at Herd Creek, a tributary to the East Fork Salmon River. This site is a prime Chinook spawning area, but contains "channel instability" consisting of bank trampling,

denuded vegetation and an inherent high-energy system. Water quality testing at Blackbird Mine, will be an on-going project in Panther Creek and Big Deer Creek, for copper and cobalt.

FACILITY: **Cinnabar Mine, Payette National Forest**
McCall, Idaho

STATUS: Docket. Non-NPL. (Listed on the February 5, 1993, docket). The PA was completed and sent to the EPA in May 1993. The USDA Forest Service completed a Removal Action in 1992. The EPA completed a second Removal Action in 1996 and 1998.

NARRATIVE: This site is an inactive mercury mine with documented releases of mercury, lead, zinc, and arsenic in large quantities from mine tailings piles. Although the site is primarily patented mining land, part of the tailings piles are on National Forest System (NFS) land. In late 1992, the Forest Service (FS) breached the tailings dam and an emergency spillway was constructed to prevent a catastrophic release. This action was taken as a CERCLA Removal Action. Notification of known PRPs has been completed. In addition, other problems at the site include diesel-fuel spills from onsite tanks in 1988. The EPA requested the FS perform a SI in 1993. However, because most of the site is privately owned, it was not appropriate for the FS to conduct the SI. In August 1993, the EPA agreed to perform the SI with the FS contributing a share of the cost. The EPA contractor finished the SI in September 1994.

In the summer of 1995, a PRP remediated a leaking above-ground storage tank. In 1995, CERCLA 104(e) letters were sent to the PRPs at the site. In November 1995, the EPA and the FS agreed that further interagency coordination was required. A small tailings pile still remains on the public lands.

FY 1996 WORK: The EPA decided to conduct a time-critical removal action at the Cinnabar Mine in August 1996. Actions conducted at the site included removal of asbestos, containment and removal of polychlorinated biphenyls and mercury-contaminated soil and stream sediments, removal of miscellaneous laboratory and petroleum wastes and posting and securing the site. Work was done on the tailings and the stream channel was rehabilitated. The FS On-Scene Coordinator assisted in the effort by working with the EPA to open the FS road leading to the site and allowing access for

construction equipment. The EPA is discussing further work at the site with the PRPs.

FY 1997 WORK: No actions taken.

FY 1998 WORK: The EPA conducted a time-critical removal action at the site in 1998. This removal is a follow up to the 1996 work, completing the site. Actions completed were to finish removal of contaminated soils, re-sloping and re-vegetating the waste piles.

FY 1999 WORK: No actions taken.

FACILITY: **Deadwood Mine Site, Boise National Forest**
Cascade, Idaho

STATUS: Non-Docket. Non-NPL.

NARRATIVE: In 1995, the Idaho Geological Survey completed a survey of the Deadwood Mine site as part of a Forest Service Region wide inventory effort to identify abandoned and inactive mine sites. The survey indicated the site had potentially serious environmental problems and a suspected release of hazardous substances. An On-Scene Coordinator was assigned to the project and an Administrative Record started. A site investigation in 1999 showed high levels of lead in the tailing pile. The EPA conducted a Preliminary Assessment in 1999 that concluded that an extensive site investigation is warranted.

FY 1999 WORK: A PRP search report was performed in 1999. Notification and information request letters will be sent this year and PRP Negotiations initiated.

FACILITY: **Goldstone Mine, Salmon National Forest**
Salmon, Idaho

STATUS: Non-Docket. Non-NPL. Office of the General Counsel (OGC) is reviewing the PRP status and preparing CERCLA 104(e) letters.

NARRATIVE: A PRP search is completed and until the PA is completed in 2000, no action will be undertaken. The Forest has reviewed the PA and

PRP search results, sending recommendations to OGC for their follow-up.

FACILITY: **Grouse Creek Mine Site, Salmon-Challis National Forest Sunbeam, Idaho**

STATUS: Non-Docket. Non-NPL. Removal Action completed in 1999 by Hecla.

NARRATIVE: The facilities at the Grouse Creek mine were constructed in 1993 and include an office and shop, storage buildings, fuel and electrical facilities, the mill, mine and a tailings impoundment. Crushed ore from the open pit was delivered to the mill, where it was processed using a cyanide leaching process. Tailings from the ore processing were placed in the tailing impoundment in slurry form, along with the excess process waters. Waste rock was placed in a waste rock stockpile, located on the northwest side of the tailing impoundment. The gold and silver mine operated until 1997, when Hecla suspending mining operations because of unfavorable economic conditions.

The first documented off-site release from the tailings impoundment occurred in August 1995. A tailings pipeline failed causing tailings from the mill to discharge under high pressure directly against the tailings pond liner. As a result the liner was compromised by the abrasive tails resulting in a discharge of cyanide bearing solution to the underdrains and into Jordan Creek; a tributary to the Salmon River. The release was reported to the appropriate agencies and the liner system repaired. Following an order from EPA, Hecla constructed a treatment plant in 1996 to treat contaminated water. The treatment plant was upgraded in 1998.

In May through December 1997, WAD cyanide was detected off-site, in stream, and down stream from the mine site. In May 1999 cyanide contamination was discovered in seeps adjacent to Jordan Creek, indicating the tailings impoundment was leaking in another location. Cyanide has been detected in both surface and groundwater monitoring stations downstream from the Site. In addition to cyanide, other contaminants include several heavy metals, such as arsenic and copper as well as sulfate.

Following reports of cyanide releases in 1999, the IDEQ issued a Notice of Violation to Hecla, asserting violations of Idaho's water quality standards and Hecla's cyanidation permit. Hecla and IDEQ have reached an agreement on a consent order. The FS and EPA have been negotiating an AOC with the PRP.

An On-Scene Coordinator was assigned to the project and an Administrative Record started. The mine Site is still under an approved Plan of Operations. The mine was placed in interim closure status in 1997. As per correspondence from Helca in April 2000, the mine project changed to permanent closure status. The FS is starting a process to evaluate the unfunded/underfunded closure/reclamation liability needing reclamation bond re-calculation. Hecla is the only PRP identified at this time.

FY 1999 WORK: EPA and FS have been actively involved in negotiating an AOC to de-water the tailings pond. The Hecla performed a CERCLA removal action in 1999. The time critical action involved the construction of sumps to capture cyanide-bearing springs and seeps that enter Jordan Creek. The contaminated waters were pumped from the seeps to the tailings ponds. The action was completed in September 1999.

FACILITY: **Harmony Mine, Salmon National Forest**
Salmon, Idaho

STATUS: Non-Docket. Non-NPL. Awaiting completion of EPA funded PA. The Forest Service (FS) completed a PRP search.

NARRATIVE: The Forest Service completed a PRP search in 1999. A PA funded by EPA should be released by June 2000. Initial review indicates there may not be a viable PRP. Awaiting PA before OGC review of PRP document and further action.

FACILITY: **Livingston Mill Site, Sawtooth National Forest**
Twin Falls, Idaho

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Livingston Mill Site area is located at the confluence of Jim Creek and Boulder Creek approximately four (4) miles west of the

East Fork of the Salmon River, Custer County, Idaho within the Sawtooth National Recreation Area administered by the Sawtooth National Forest.

The Livingston Mill Site, like numerous other mining related sites, has a long history associated with its existence. Albert S. Livingston and William F. Livingston originally located the Livingston Mine on July 28, 1882. The Livingston mine was the largest base metal producing mine in southern Idaho. During the existence various individuals and companies have held an interest or control in total, or in part, of the Patented Lode and Unpatented Lode and Mill Site Claims associated with its development. The Livingston Mill Site was originally located as the Jim Creek Mill Site on January 5, 1924, by Livingston Mines Corporation and James E. Walker, Agent for Livingston Mines Corporation. The Livingston Mine consisted of 134 Lode, 34 Mill sites and 3 Tunnel Site mining claims. Seven lode mining claims are Patented, Clara, Deadwood, High Tariff, Little Falls, Livingston, May and Trensvalle (AKA Transvaal, Transvalle and other spellings).

Anadromous fish reside and migrate in reaches of the East Fork Salmon River and Big Boulder Creek. The following Threatened and endangered species have been identified: bull trout (*Salvelinus confluentus),* Chinook (King) Salmon (*Oncorhynchus tsawytscha),* Rainbow Trout (STEELHEAD) *(Oncorhynchus mykiss),* Inland Columbia Basin redband trout (*Oncorhynchus mykiss gairdneri)*, west slope cutthroat trout (*Oncorhynchus clarki lewisi).*

Contaminants of concern include lead, zinc, copper, silver, arsenic and selenium associated with 60,000 tons of tailings.

In fiscal year 1994 the FS conducted a sampling and testing program, which indicate a high level of lead.

FY 1997 WORK: In 1997 Forest Service Personnel completed a PRP Search begun in 1996.

FY 1998 WORK: In 1998 an On- Scene Coordinator and an OGC attorney were assigned to the project.

FY 1999 WORK: During FY 1999 a PA was initiated.

FACILITY: **McCrae Mine Site, Payette National Forest**
Big Creek, Idaho

STATUS: Non-Docket. Non-NPL. A Time-critical Removal Action completed in 1998 by USDA Forest Service. PA was completed May 18 and is being routed to EPA and Forest Service (FS).

NARRATIVE: This site was identified in 1997 as a CERCLA site during a site investigation in 1996. This investigation found elevated levels of metals in the tailings pile and 25 barrels of unknown substances. An On-Scene Coordinator was assigned to the project and an Administrative Record started. No PRPs have been found at this site.

FY 1998 WORK: The FS completed a time critical removal action. The action tasks were to cap tailings, cover the mill site, and remove barrels with unknown substances. The removal was completed in August of 1998.

FACILITY: **Missouri Mine, Boise National Forest**
Boise, Idaho

STATUS: Docket. Non-NPL. (Listed on the February 5, 1993, docket).

NARRATIVE: This is an inactive base metal mine operated for zinc and lead extraction. There are known releases of cadmium, arsenic, copper, iron, manganese, zinc, antimony, lead, nitrates, and potassium cyanide into the creeks and settling ponds. Portals and tailings piles are also releasing hazardous substances. Various contaminants were tested and found to exceed either the EPA acute or chronic toxicity levels. Sulfide compounds are also a problem at the mine. Barrels were removed from the site in 1993. The drainage from the main adit was addressed through a PA and EE/CA. The Boise National Forest started a PA and EE/CA in the summer of 1994, but had to postpone the effort because of the heavy fire season. In 1995, the Forest finished surveying and chemically testing the site. This information was used to complete the PA and an EE/CA. Further action is pending, based on funding.

FY 1996 WORK: Additional PRP work was done, indicating that the bonding company and the last mining company are defunct and that the current claimant is not financially viable.

FY 1997 WORK: PA and Sampling and Analysis Plan were completed. PRP work continued.

FY 1998 WORK: PRP work continued, the EE/CA was completed. Additional sampling and design work was carried out under contract.

FY 1999 WORK: On-Site location for a repository and design were initiated. Phase 1 of the removal action was initiated.

FACILITY: **Monarch Mine Stamp Mill Site, Boise National Forest Boise, Idaho**

STATUS: Docket. Non-NPL. (Listed on the September 27, 1991, docket).

NARRATIVE: In 1991, a portion of the Kirby Dam failed and resulted in the release of approximately 160,000 cubic yards of mill tailings contaminated with mercury and arsenic. The release resulted in elevated levels of mercury in fish flesh and in the exceedance of drinking water standards. The tailings came from mining activities in the Yuba River and the Middle Fork of the Boise River watersheds.

A Time-Critical Removal operation was completed in April 1992. Currently, the tailings are stabilized in place behind the newly constructed dam. As part of an agreement with the State, fish are being tested below the dam, and their mercury contamination levels are below State standards. In 1993, the EPA Region 10 issued its preliminary Hazard Ranking System score of 50 and requested a Sampling Investigation (SI) to facilitate the final hazard ranking score. In October 1995, the Forest Service completed a PA/SI and submitted to the EPA. Based upon the submission the EPA issued a letter of No Further Remedial Action Planned (NFRAP).

Various Removal Actions are being undertaken in the watershed. A Removal PA and an EE/CA were written for the Riverside Campground in the Atlanta area. The campground was closed because of the presence of large quantities of mine tailings, contaminated with mercury and arsenic, used for fill around tent

pads and picnic tables. A removal action was started in November 1994. The tailings will be moved to a repository that will be constructed onsite and clean fill material will be brought in for the campground. A second removal action is planned to stabilize the Monarch Stamp Mill Tailings upriver from the Kirby Dam. Site characterization of the tailings was done in the summer of 1995. This information will be used to design a removal action at the site. It is anticipated that through the separate actions at the Monarch Stamp Mill Tailings site and the Riverside Campground site that the overall Kirby Dam site will not be placed on the NPL.

The estimated completion date for the Monarch Stamp Mill Tailings was FY 2000. The revised estimated completion date for the Monarch Stamp Mill Tailings is FY 2001.

FY 1996 WORK: There was no activity in 1996 related to the Kirby Dam other than the routine dam safety inspections. The Monarch Stamp Mill tailings upstream of the Kirby Dam are located along the Middle Fork of the Boise River and are being eroded away during the river's high-water events. The site characterization of the Monarch Site in 1995 delineated the extent of the contaminated tailings but did not resolve the groundwater contamination question. The Boise National Forest contracted with the Bureau of Reclamation in the fall of 1996 to install three groundwater-monitoring wells to provide some basic groundwater information in preparation for writing an EE/CA in 1997. The Forest plans to take the samples and have them sent to a lab for analysis. The PRP on site assisted with the work in 1995, donating equipment time. Additional PRP work on the site was not done in 1996.

The Riverside Campground removal action was approximately 95% complete at the end of 1996. Additional site revegetation at the hazardous waste repository area and campground is needed to stabilize each.

FY 1997 WORK: The completion date for the Riverside Campground was 1997, however, due to a contract resolution dispute, the removal action activity at Riverside Campground was continued in FY 1998. Monarch Mill Site Tailings were monitored to determine the extent of a ground water arsenic and mercury plume. Work was centered approximately one-half mile upstream from the Riverside Campground when the historic Talache/St. Joseph mine tailings embankments failed on May 15, 1997, releasing approximately

16,000 cubic yards of material onto adjacent private and public lands administered by the USDA Forest Service. The FS, State of Idaho, EPA, FWS, and Army Corps of Engineers has worked as a technical team on the time critical response action that resulted. Forest Service AOC, and Action Memorandum Record of Decision were Completed 1997. The preferred alternative in the Action Memorandum is to exchange the contaminated lands for non-contaminated lands, thus reducing the liabilities.

FY 1998 WORK: The Removal Action at Riverside Campground was completed in FY 1998. The Board Of Contract Appeals resolved the dispute in favor of the government in July of 1998. EPA took lead from State of Idaho on private property. FS lead on NFS lands. Attempting to resolve liability issues through land exchange/transfer to Responsible Parties. Time Critical Removal completed; Non-time Critical Removal undertaken.

FY 1999 WORK: In May 1998 a leak was detected in the liner at the Riverside Campground Repository site. The site was monitored and tested in November 1998. It was determined a quantity of fluid was exiting the repository liner. The effluent was determined to contain arsenic. Sampling of the monitoring wells continued during FY 1999. Specialist's reports completed during FY 1999 for proposed Monarch Greenback, LLC/FS Land Exchange. Responsible Party refused to fund appraisal costs. EE/CAwas completed by an EPA Contractor during 1999. Geotechnical drilling was completed on the Talache/St. Joe Tailings.

FACILITY: **Pope Shenon Mine, Salmon National Forest**
Salmon, Idaho

STATUS: Non-Docket. Non-NPL. OGC is reviewing recommendations of Forest review of the PRP document. Forest is requesting funding to conduct EE/CA on the site.

NARRATIVE: A PRP search and PA were completed in 1999. Review indicates no viable PRP's for the site. There is a need to clean up tailings on the surface, which are dispersing each spring.

FACILITY: **South Maybe Canyon Mine, Caribou National Forest**
Pocatello, Idaho

STATUS: Docket. Non-NPL.

NARRATIVE: Phosphate rock mining at the South Maybe Canyon mine occurred from 1976 to 1983. Mining occurred on Federal Phosphate Lease I-04. A large (+35 million cubic yard) waste dump was constructed as a cross-valley fill to handle the overburden from this surface mine. The perennial South Maybe Creek runs under the cross-valley fill. The mine and overburden dump are situated on National Forest System (NFS) lands. The dump is constructed partially on the Federal lease (permitted by the BLM) and partially on NFS lands authorized by a Forest Service (FS) Special Use Permit. Reclamation on the dump was completed in the early 1990s. In December 1996, the FS and BLM were made aware that several horses pastured down-stream from the dump were showing signs of selenium toxicosis. Sampling and testing verified that South Maybe Creek had elevated selenium levels.

FY 1997 WORK: The PRP search was started in FY 1997. A public relations plan was completed in 1997. Warning signs were posted on-site concerning possible contamination of surface waters. The PA and preliminary SI were completed in September 1997.

FY 1998 WORK: A supplement to the PA was completed in December 1997. The PRP search was concluded and a letter was sent to the identified PRPs in March 1998. An AOC for completion of the PA and performance of an EE/CA between the FS and the PRP was signed in July 1998. In July, a draft SI Sampling and Analyses Plan were completed. Site testing was continued with drilling being done to test for possible ground-water contamination. SI work continued.

FY 1999 WORK: The EE/CA work plan was completed in February 1999. Additional site characterization and sampling were done. The draft SI was completed in March 1999. Work continues to finalize the SI.

FACILITY: **Stibnite Mine Site, Payette National Forest**
McCall, Idaho,

STATUS: Docket. Non-NPL. (Listed on the September 27, 1991, docket). A PA/Sampling Inspection was completed in 1993. Mobil Resource Corporation completed a Removal Action in 1998. The Forest Service completed a second Removal Action in 1999.

NARRATIVE: This site has been an inactive mine since 1997. The Last operator declared bankruptcy in 1997. The Forest Service (FS) and State has acquired the bond and are in the process of final reclamation. The mine was an active gold operation since 1982. Past leaching operations resulted in the release of cyanide. The EPA put the site on the docket. As a result of the PA/SI, natural resource damage assessment actions are pending. There is a possibility that this site will be listed on the NPL. At the request of the EPA, the FS conducted field sampling in July 1993, and the associated analysis was completed in October 1993. The SI report was submitted to the EPA in December 1993.

The EPA issued a CERCLA order in 1995 against Stibnite Mining, Inc. (SMI), for imminent breach of the elevated Meadow Creek channel. Should such a breach occur, the uncontaminated water in the creek would flow into the valley bottom, which is filled with mine tailings, and wash the tailings into the nearby river. Massive fish kill is the likely result of such a breach. The channel work was started in the fall 1995 and postponed until spring 1996 because of weather problems. The EPA terminated the order with SMI in 1997 and billed them for 2.3 million dollars in stipulated penalties. The FS and EPA entered into an AOC agreement with Mobil Resources to construct a new channel. .

The FS and the EPA have entered into a Memorandum of Understanding to facilitate the continued response actions. Estimated completion date for this project is 2004.

FY 1996 WORK: The majority of the work being done by SMI, for the EPA under a CERCLA 106 order had been completed by the winter shutdown. In total, the work objectives were stabilizing and regrading the Meadow Creek channel, installing an impermeable liner along selected areas of the channel, installing filter fabric over the Bradley tailings, installing a treatment facility to treat water that comes in contact with the spent ore, and removing or capping the tailings downstream of the keyway.

Throughout 1996, SMI, other PRPs, and the Idaho DEQ had been negotiating a Consent Order for cleanup of the Stibnite Mining Area. Signatures were obtained between December 1996 and February 1997 from SMI, Mobil Corporation, and Hecla Mining Company. The State Voluntary Consent Order was expected to alleviate the need for additional independent action by the FS or the EPA. The proposed process called for characterization of the site and evaluation of remedies through 1999, with implementation of remedies to begin in 2000. This order was to follow the CERCLA remedial process.

FY 1997 WORK: SMI continued to operate an active gold mine and accomplish the work required in the 1995 AOC. The work was never completed and the EPA terminated the AOC for violations of the AOC and found 2.3 million dollars of stipulated penalties. The company declared bankruptcy and relinquished the bond to the FS, Idaho Department of Lands, and Idaho DEQ.

FY 1998 WORK: FS and EPA entered into a CERCLA AOC with Mobil Resources to complete the removal actions at the spent ore/Bradley tailing pile that was not completed by SMI. Removal was completed in November of 1998. The estimated cost for the removal was 3.8 million dollars. The major components of the removal included construction of new channel utilizing a sand filter, regarding the spent ore pile to reduce erosion, and covering of the tailing ponds. The FS, Idaho Department of Lands, and Idaho DEQ started the final reclamation using existing bond money.

FY 1999 WORK: The FS performed a time critical removal action. This action consisted of capping some existing cyanide ponds at the 1978 pilot process area. The lined ponds contained sediments that contained elevated levels of metals significantly above background. An impervious geo-liner was used to cap the ponds.

FACILITY: **Tungsten Jim Mine, Challis National Forest**
Challis, Idaho

STATUS: Non-Docket. Non-NPL. PA completed.

NARRATIVE: The Forest Service completed a PA. Prior to conducting a PRP search the Forest Service will contact the mining company regarding cleanup of the site.

FACILITY: **Apex Mine, Toiyabe National Forest**
Sparks, Nevada

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Apex Mine is an abandoned uranium mine in the Reese River mining district outside Austin, Nevada. Joe and Rudy Rundberg first discovered Uranium in 1953. The mine produced several thousand tons of uranium ore with a value of approx. $100,000. Later development by Gulf Mineral Resources occurred in the late-1970s. Exxon had a lease on the property and conducted exploration and drilling at a later time. The Site includes open, hazardous shafts, collapsed structures, and waste ore piles.

FY 1997 WORK: No work this year.

FY 1998 WORK: A Forest Service contractor completed a Health and Safety Survey on the Site. This included a survey of the Apex underground mine workings. The survey consisted of recording ground conditions, water, radon detection, equipment, explosives, and mapping of workings. A radiological gamma survey of the dumps was also conducted in August of 1998.

FY 1999 WORK: A Preliminary Assessment was conducted during 1999. The Office of General Counsel staff conducted some PRP search work. The final PRP report is pending.

FACILITY: **Black Beauty Mine, Humboldt-Toiyabe National Forest**
Elko, Nevada

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Black Beauty mine site occupies 3-4 acres on mixed federal and private lands. Most of the surface disturbance at the site is on National Forest System lands and consists of stockpiles of material excavated during exploration trenching activities, primarily black, friable shale occasionally mixed with other native materials. During exploration, a trench up to 150 ft long, 30 ft wide, and 20 ft deep was excavated in the drainage and later backfilled. A wetland now occupies much of this area. Much of this material has been placed

in the drainage bottom and is sloughing into the creek. Apart from mining exploration, the area surrounding the mine site is primarily used for recreation.

Prudencio Elordieta discovered the Black Beauty shale deposit in 1936, while he was herding sheep in the area. Little activity occurred at the site until the early 1950s when mechanized equipment was used to uncover the shale and remove samples. In 1964-1965, the property was leased to Basic Minerals Sales who removed 7,000-10,000 tons of shale and sold the material as a soil amendment in California. Exploration drilling and trenching to further define the volume of material present continued into the early 1980s. A Plan of Operations (under the authority of 36 CFR Part 228 Subpart A) was subsequently submitted to the Forest Service by ARCO, Incorporated to mine several thousand cubic yards of iron sulfides from the deposit. However, during processing of the plan, two Notices of Noncompliance were issued to ARCO because of unauthorized trenching and bulldozer cuts in the bottom of the west fork of Gance Creek and on the slopes adjacent to the creek. ARCO also lost financial backing for the project and the Plan was not approved. Other than the drilling of a few exploration holes targeting gold resources, no substantive exploration or mining activity has occurred at the site since. Much of the contamination at the site has resulted from contact of the creek with a stockpile of black sulfide shale material placed directly in the drainage bottom, exhibiting strong sulfur smell and yellow sulfur-colored staining.

FY 1996 WORK: A PRP search and survey were completed.

FY 1997 WORK: The Humboldt-Toiyabe National Forest conducted Sampling at the site and prepared a Preliminary Assessment. Data collected for the preparation of this report do not indicate that the Black Beauty Mine site is adversely impacting water quality in Gance Creek. Furthermore, the data do not indicate that sediment and chemical constituents mobilized from the site present a serious threat to the environment or human health. Based on this information, CERCLIS listing and/or pursuit of a formal removal action are not recommended for the Black Beauty site.

FY 1998 WORK: No further work anticipated.

FACILITY: **Buckskin Mine, Humboldt National Forest**

Elko, Nevada

STATUS: Docket. Non-NPL. (Listed on the December 1989, docket). A Preliminary Assessment/Sampling Inspection was submitted to the EPA. It has been reviewed and returned from EPA with a recommendation of No Further Response Action Planned.

NARRATIVE: The Buckskin National and McCormick Group mines (the Site) are located in northern Humboldt County, Nevada. The general physical location of the Site is on Buckskin Mountain in the North Fork of the Little Humboldt River drainage. The two mines are separated by approximately four-tenths of a mile. Unpatented mining claims were located on the Site; no private lands have been identified. The McCormick Group Mine, near the top of Buckskin Mountain, was in operation the first half of the 20th century, for an unknown period. Between 1922 and 1928, while prospecting for gold and silver, Chalmers McCormick located 18 unpatented claims covering a mercury "quicksilver" deposit. Mercury production totaled approximately 130 flasks. In 1932, mercury was recovered with a pan retort. A 64-foot rotary furnace was installed and produced 70 flasks of mercury before it was dismantled and removed from the property in 1941. Buckskin National Mine has a lengthier history. The Buckskin National mining claims were first located in l906 by W.J. Bell and G.B. Ward. The Buckskin National property was mined intermittently from 1906 to 1941. Total production was about 24,000 ounces of gold and 300,000 ounces of silver based upon partial production records.

The Buckskin National Mine consists of extensive workings spread over 20 acres. The workings included a tailings pile and dam, waste rock dump, six adits, eroding structures, and abandoned process residuals. Between one and 53 gallons per minute of acidic, metal laden water flows from the Hatch adit. The adit discharge enters the tailings and flows out of the base of the tails. Dissolved metals present in both the adit discharge and tailings leachate flow directly into the North Fork of the Little Humboldt River. Sediment from tailings erosion also enters the river and is transported down the river.

In July of 1979 some drums of wastes/chemicals were removed from the site by contractors of the Forest Service. In 1980, ASARCO, Inc., conducted some cleanup work at the Site. A diversion channel was excavated to divert water around the tailings

and into the North Fork of the Little Humboldt River. A sediment dam was also constructed to prevent tailings from eroding into the river. Since then, the dam has been breached from storm events. In 1990, four cattle were reported to have died from ingestion of cyanide left at the Site. The bulk of the cyanide source was removed at that time, however approximately 120 gallons still remained. A CERCLA removal action was initiated on April 27, 1990, with a Removal Preliminary Assessment prepared by the Humboldt National Forest to review all available information on the sites. A Removal Site Inspection (SI) report was completed in July of 1991, by Earth Technology Corporation (Battelle).

EnviroSearch International, a Forest Service contractor, was retained in 1993 to write an EE/CA, which was completed in early 1995. The preferred alternatives selected were, in general, to remove tailings material from the flood plain, terrace, and cap the tailings, remove drums, reroute the Hatch adit discharge, and control surface run-on. For the McCormick Group Mine, the preferred alternative was to cap the retort soils surrounding the area. Additional work completed on the Site included development of a community relations plan, notification of potentially responsible parties and requests for their participation; requests for information, development of an Action Memorandum on the final decision; and significant public and other agency involvement efforts. Also an archaeological study was completed in 1993, pursuant to the National Historic Preservation Act.

FY 1996 WORK: A non-time-critical removal action was conducted on the Site. The tailings were regraded to allow for better drainage, pulled away from the creek, and covered with rock obtained on the Site. Barrels were removed, although additional barrels will be removed in 1997. Drainage from an adit on the Site was rerouted around the tailings. The McCormick mercury retort was welded shut, and boulders were placed around it to minimize accidental human exposure.

FY 1997 WORK: Revegetation work was completed in 1997, along with some water quality monitoring.

FY 1998 WORK: Continued revegetation monitoring was conducted. A revegetation study was conducted including soil analysis and species recommendation for areas impacted by tails with unsuccessful revegetation.

FACILITY: **Colorado Hill Mine Area, Toiyabe National Forest**
Sparks, Nevada

STATUS: Non-docket. Non-NPL.

NARRATIVE: The Site is located approximately five miles west of Markleeville, California, and 26.5 miles west of Minden, Nevada, on the Carson Ranger District, Toiyabe National Forest. The area includes numerous adits with flowing or standing acid rock drainage, sulfide waste rock piles, two acid seeps not directly associated with mining, and some collapsed structures and open pit mines.

The entire "Colorado Hill Area" was submitted to the FS Washington Office as a proposed watershed restoration/remediation project under the Interdepartmental Abandoned Mine Lands Watershed Cleanup Initiative. This initiative includes partnerships with the states in which the projects lie. If a project is approved for funding, an intensive study of the watershed(s) will be initiated.

FY 1999 WORK: An aerial photography flight was flown and site maps are being developed.

FACILITY: **Fury-Grantsville Mine, Toiyabe National Forest**
Sparks, Nevada

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Fury-Grantsville Mine was an inactive silver and gold heap-leach mine threatening to release cyanide and heavy metals to the environment. Although the mine is located primarily on patented mining lands, 88,000 cubic yards of cyanide-contaminated ore, along with the process and solution ponds, are located on National Forest System lands. A letter notifying the Canadian PRP of the Forest Service's intent to initiate a response action under CERCLA was sent in June 1992. A contract was awarded for an EE/CA in August 1993. The scope of work was expanded to include identification of alternatives and a design of the Forest Service's preferred alternative. The EE/CA was finalized in 1995 along with the design of the preferred alternative.

FY 1996 WORK: In 1996, the heap leach was rinsed and cyanide levels were reduced to acceptable limits. A biological solution that aided in the

degradation of the cyanide was used. A biological passive treatment system and a leach field were installed.

FY 1997 WORK: Additional work on the heap leach included regrading the heap and covering it with stockpiled topsoil and revegetation.

FY 1998 WORK: Groundwater and vegetation monitoring were completed.

FACILITY: **Leviathan Mine, Toiyabe National Forest**
Sparks, Nevada

STATUS: Non-Docket. Non-NPL. (Site was proposed for listing in May 2000).

NARRATIVE: The entire Site covers approximately 700 acres and is located in Township 10N, Range 21E, Sections 15 and 22, Mount Diablo Meridian, in Alpine County, California, ten miles east of Markleeville and two miles north of the Monitor Pass Highway. The Site is predominantly owned by the State of California; however, National Forest System (NFS) lands surround the Site and approximately 20 acres of NFS land has been directly impacted. A Response Action has been initiated at the Site by the EPA, through an AOC with the PRPs, Atlantic Richfield Company, Inc. (ARCO) in coordination with the State of California, Lahontan Regional Water Quality Control Board.

Discovery of the mine came in 1863 by Comstock Lode miners and prospectors who apparently were seeking a source of chalcanthite for processing silver sulfide ore by the Patio process at Virginia City, Nevada. At that time, an adit was driven about 400 feet into silicified and mineralized rock in search for a concentration of chalcanthite. The mine originally was an underground mine until 1952 when Anaconda Minerals began surface mining of sulfur ore which was utilized for the processing of copper ore at their Yerington, Nevada, facility. Approximately 500,000 long tons of sulfur valued at $14.5 million has been produced from this mine. Nearly all the production came in the period between 1953 and 1962 when the mine was owned and operated by the Anaconda Minerals.

The Site currently consists of a large open pit, a main adit, five evaporation ponds, concrete drainage canals and sumps, several

wood frame/sheet metal buildings, and an ore bin. Several, large waste/overburden piles also lie on the Site. Actual disturbed area is approximately 250 acres. At an elevation of 7,000 feet, the Site is drained by Leviathan and Aspen Creeks that are tributary to the East Fork of the Carson River, a major western Nevada water supply source. Due to the exposure of the ore body, both underground and above ground, and disposal of the low-grade sulfur containing waste rock in the drainage, adverse impacts to downstream water quality have resulted. Surface runoff in contact with the exposed surface minerals (in the pit and waste rock material), as well as underground drainage, results in acidic water containing heavy metals, which enters the drainages. Also, contaminated seepage is occurring from springs at the site. The net result has been that Aspen and Leviathan Creeks, downstream from the Site, have become severely impacted. Considerable restoration work occurred at the Site in the early 1980s through a pollution abatement control project initiated by the Lahontan Regional Water Quality Control Board (LRWQCB).

The Forest Service (FS) serves in two capacities at the site. The first is as On Scene Coordinator for a CERCLA response action for the approximately 20 acres of impacted NFS land property. That action was mainly initiated for incidental use of the land by ARCO and the other agencies in the course of the work at the site. The second is to serve as a Natural Resource Trustee under a National Resource Damage Assessment case. The FS is a member of the Leviathan Mine Council, with members including the Washo Tribes of Nevada and California, the U.S. Fish and Wildlife Service, and the States of California and Nevada.

FY 1998 RESPONSE WORK: On April 15, 1998, the EPA, Region IX, signed an Administrative Order on Consent (Order) for Removal Action with ARCO Environmental Remediation, L.L.C. The Order was for performance of a removal action and reimbursement of response costs incurred by the U.S. on the Site.

The FS completed an Action Memo to initiate a CERCLA Non-Time Critical Removal Action on NFS land at the site on July 23, 1998.

In 1998, the LRWQCB and the FS entered into a Participating Agreement for the Leviathan Mine Removal Actions to outline the

FS and State relations during actions at the site. A road use permit was also issued to ARCO for use of NFS land roads.

FY 1998 NRDA WORK: A Memorandum of Understanding was signed between USDA DOI, Washo Tribes of Nevada and California, and EPA. The Leviathan Mine Council developed a Pre-Assessment Screen. A Confidentiality Agreement was signed between the Trustees and other members of the Trustee Council (States of Nevada and California, etc.).

Phase I Assessment sampling occurred throughout the year on biological and physical natural resources potentially impacted by the site, using both internal Council member agencies and outside contractors.

Participation and Funding Agreement was signed with ARCO.

FY 1999 RESPONSE WORK: In 1999, the EPA and the FS entered into an MOU for any and all actions taken at the site.

FY 1999 NRDA WORK: Phase II Assessment sampling occurred throughout the year on biological and physical resources potentially impacted by the site, using both internal Council member agencies and outside contractors. FS funded the macro-invertebrate studies at the site.

FACILITY: **Rio Tinto Mine, Humboldt National Forest**
Elko, Nevada

STATUS: Docket. Non-NPL. (Listed on the December 15, 1989, docket). The Forest Service (FS) sent a PA to the EPA, which scored the site. The initial score was below that required for listing on the NPL.

NARRATIVE: The Rio Tinto mine is located in northern Elko County, Nevada, in the Mountain City Mining District. The Site is entirely on private lands acquired through the homestead entry, mining patent processes and a Small Tracts Act sale. In 1931, S. Frank Hunt discovered a copper vein at Rio Tinto. The Mountain City Copper Co., a subsidiary of Anaconda Copper, acquired the site. Anaconda Copper operated the mine using underground mining techniques and a flotation mill from 1932 to 1947. The George Wallace Company operated the site in the late 1960's. Cliffs Copper Corp.

operated the site into the 1970s. There have not been any significant mining activities since Cliffs Copper discontinued operations in 1975. Title to the majority of the private lands is presently owned by Doris Widerburg.

The Rio Tinto Mine site consists of extensive workings, spread over about 250 acres, which includes a tailings pile and dam, waste rock dumps, six adits, shafts, eroding structures, a small heap leach pad and abandoned process residuals. In September 1990, as part of CERCLA initiation, a Removal Preliminary Assessment (PA) was prepared by the Humboldt National Forest. A preliminary Potentially Responsible Parties (PRP) search was conducted in September 1992. A Finding of Alleged Violation and Order was issued by the Nevada Division of Environmental Protection (NDEP) on July 15, 1993, to several past owners and operators at the site, and to the FS.

FY 1996 WORK: In 1996, the State of Nevada, the involved companies, and the Duck Valley Shoshone-Paiute Tribes began negotiating an Administrative Order on Consent, under Nevada law, to address the private portions of this Site. The involved companies are Cleveland Cliffs Iron Company, E.I. du Pont de Nemours and Company, Atlantic Richfield Company, and Cominco American, Inc., hereinafter referred to collectively as the "Companies." Under the State AOC, the companies began reclamation at the Site. The FS was not a party to this process due to its on-going CERCLA action. In August of 1996, the FS completed a Removal Action Memorandum for the Rio Tinto Mine area on National Forest System (NFS) lands. The decision made in the memorandum was that a time critical removal action was appropriate for the Site, and the final, selected Removal Alternative was to sell the NFS parcels under the Small Tracts Act (16 U.S.C. 521b), and thereby transfer NFS land from FS jurisdiction to private ownership.

As consideration for the conveyance, the receiving Owner and all successors in interest, were to agree to clean the Site in accordance with the State AOC and to indemnify, defend, and hold harmless the United States and its agencies for past, present, and future costs of Site remediation.

FY 1997 WORK: On August 16, 1997, the Companies began construction activities on NFS lands quit claim deeded to the Companies from the FS.

FY 1998 WORK: On December 20, 1997, the Companies and their contractors completed cleanup actions consistent with the Nevada AOC. Since the Site no longer lies on NFS lands, no further FS action has occurred at the Site. The State of Nevada has been responsible for monitoring.

FY 1999 WORK: The Companies continue to monitor the site and conduct necessary maintenance.

FACILITY: **Zaca Mine, Toiyabe National Forest**
Sparks, Nevada

STATUS: Non-docket, Non-NPL

NARRATIVE: The Site is located approximately five miles west of Markleeville, California, and 26.5 miles west of Minden, Nevada, on the Carson Ranger District, Toiyabe National Forest. Historical mining has impacted the entire watershed. The Zaca Mine was the first to be located in Alpine County. It is a consolidation of two adjacent mines once known as the Advance and the Colorado. L.L. Hawkins, rancher and mining engineer, claimed to have made the discovery of silver ore along Monitor Creek on Colorado Hill at or near the site of the present mine workings, in 1857. The site has undergone intermittent mining and exploration up until present. In 1994, a Plan of Operation was submitted by Western States Minerals Company to the Carson Ranger District of the FS for a proposed five-year mining operation that was to employ approximately 70 people; however, the company withdrew its proposal.

On October 19, 1998, a Complaint, with Jury Trial Demanded, was filed in the United States District Court, Eastern District of California, by California Sportfishing Protection Alliance against Western States Minerals Corporation, a.k.a. Zaca Resources Corporation. The suit was brought as a citizens' suit pursuant to Section 505 of the Clean Water Act, for defendant's ongoing failure to obtain a National Pollutant Discharge Elimination System permit for the Zaca Mine.

FY 1998 WORK: A CERCLA Action Memorandum was signed for the Zaca Mine site. The FS also initiated contacts with Western States Minerals

Corp. requesting their participation in site cleanup in conjunction with the State of California.

FY 1999 WORK: A Preliminary Assessment was completed by the FS contractor. A PRP search was contracted and completed by a FS contractor.

The State of California and FS entered into an MOU that outlines how we will work together on cleanup of the site. Negotiations began with Western States Minerals (aka Zaca Resources Corporation), the current operator/mining claimants at the site. A Statement of Work was drafted, however the Administrative Order or Consent (AOC) has not been finalized. The State of California will be a co-signatory to the AOC with the FS.

FACILITY: **American Fork Canyon, Uinta National Forest**
Utah County, Utah

STATUS: Docket. Non-NPL. (Listed on the February 1993, docket). A PA was completed and sent to the EPA in 1994.

NARRATIVE: As originally submitted to EPA, this site consisted of three mines: Mary Ellen Gulch Mines (Yankee Mines), Lower Bog Mine, and Pacific Mine. However, there are other Historic mine sites that may be contributing significant levels of contaminants to the environment. The remaining sites that will be investigated in 2000 include: the mill site at Dutchman Flat; the smelter at Forest City; 2 ½ miles of FD road surfaced with mine waste rock; the Bog Mine (Upper) and various other waste rock sites in American Fork Canyon (AFC) on National Forest System (NFS) lands.

Cadmium, copper, lead, iron, zinc and other heavy metals are present in the in-situ rock formations and the waste rock and tailings piles at the mine sites. Leaching of these metals and deposition of the eroded spoils has led to water-quality problems in AFC associated with the mines' tailings dumps, spoil piles, and discharge from closed adits.

During mine closure operations being conducted by Utah Division of Oil, Gas, and Mining in AFC, they observed conditions at the Lower Bog, Pacific, and Yankee Mines associated with discharges from the adits. They obtained data collected by the FS at these sites and submitted it to EPA in 1992. That submittal lead to the listing

on CERCLIS, but the site did not warrant inclusion on EPA's National Priority List. The PA was started in 1993 and, after delays resulting from a heavy fire season, was completed and sent to the EPA in November 1994. Land surveys showed that the Lower and Upper Bog Mines and portions of the tailings at the Pacific Mine are located on NFS lands. Water Quality sampling and testing in 1988, 1992, 1998, and 1999 have consistently shown contaminants in stretches of the North Fork of American Fork River exceed Utah water quality standards for this Class 3A Cold Water Fishery. Fish Tissue samples collected from 20 fish at 5 separate sites in the North Fork revealed 9 of those fish had elevated levels of lead, arsenic, or cadmium.

FY 1996 WORK: No major work was done on this site in 1996. Plans for 1997 included completion of a PRP search for the Pacific and Lower Bog Mines and discussions with the PRPs concerning the need to complete removal actions on these sites. The PRP search was not completed until 1999.

FY 1999 WORK: Pacific Mine has been determined to be the worst single source of pollution but the other sites are degrading water quality as well. TechLaw, Inc., was awarded a contract to research the PRPs at 6 locations in AFC in 1999. CERCLA 104(e) letters have been sent to the known PRPs at Pacific Mine and Yankee Mines. Most responses have been received in a timely manner. It appears there may not be any viable PRPs associated with the Lower or Upper Bog Mines.

Because of the complexity of this project and the time required to move this work along, a full time On-Scene Coordinator was assigned to the project in late October. With this commitment to this project the estimated completion date for this project is 2002. This may vary depending upon PRP involvement and commitment.

FACILITY: **Grey Daun Mine, Manti-Lasal National Forest**
San Juan County, Utah

STATUS: Docket. Non-NPL. (Listed on the December 1989, docket). A PA submitted to the EPA in 1990 has not been scored.

NARRATIVE: The site consists of numerous uranium mine adits with radon gas releases, offsite migration of radioactive materials, and water-

quality problems from open adits and waste dumps resulting from the mining of uranium ore dating back to the early 1950's. An assessment of abandoned uranium mines conducted in 1989 identified 125 uranium mine sites on the Forest. Of that number, nine are considered potentially to pose significant threats to the environment and were listed as CERCLA sites by the FS. The Gray Daun Mine is considered the highest priority because of its potential impact on downstream water users and was selected as the first site to be addressed. A PA was completed and submitted to the EPA in 1990 and has not been scored; the site is not expected to be listed on the NPL. Sampling and testing was conducted in 1993 for use in preparing an EE/CA. The EE/CA was completed in early 1994, the three large PRPs were notified and sent CERCLA 104(e) letters, and removal action began in fall 1994. Work on the site was completed in spring 1995.

FY 1996 WORK: Work was done in 1996 by the FS to assemble cost documentation information as a precursor to a decision on seeking recovery of those costs. A CERCLA 104(e) letter was sent to the Department of Energy in June 1996, providing some information on their involvement in the United States' Uranium Program between 1940 and 1950 in the site area.

FY 1997 WORK: The Regional Forester made the decision that additional PRP search efforts were not warranted.

FY 1998 WORK: The site has been monitored. Reclamation has been excellent except for a small area approximately 20 x 50 feet.

FY 1999 WORK: Collected soil samples and had laboratory analyses done in an attempt to determine why the one area will not revegetate. Lab results showed no difference from surrounding soils, so it is probably due to slope and exposure.

FACILITY: **King Edward Mine, Manti-Lasal National Forest**
San Juan County, Utah

STATUS: Docket. Non-NPL. (Listed on the December 1989, docket). A PA submitted to the EPA in 1990 has not been scored.

NARRATIVE: The site is a uranium mine with large quantities of waste rock, radon gas releases, off-site migration of radioactive materials, and

water-quality problems from waste dumps resulting from the mining of uranium ore dating back to the early 1950's. An assessment of abandoned uranium mines conducted in 1989 identified 125 uranium mine sites on the Forest. Of that number, nine are considered to potentially pose significant threats to the environment and were listed as CERCLA sites by the FS. The King Edward Mine is considered the second highest priority because of its impact on water quality and wildlife. A PA was completed and submitted to the EPA in 1990 and has not been scored; the site in not expected to be listed on the NPL. Sampling and testing, archeology, and endangered species reviews were started in fall 1995. Twenty holes were drilled, sampled, and analyzed. Water sampling was also conducted.

FY 1996 WORK: Work is continuing to organize the administrative record for the site and complete an EE/CA. The Regional Office contractor was asked to locate additional information on PRPs; a report is not yet available. Additional soil and water samples are planned for FY 1997 for incorporation into the EE/CA.

FY 1997 WORK: An in-mine survey was completed. All known adits that are still accessible were mapped. The western portions are flooded, and were not mapped.

FY 1998 WORK: The EE/CA was completed.

FY 1999 WORK: PRP negotiations are continuing. Another potential PRP was identified late in the process.

FACILITY: **Preacher's Cove Mill Site, Challis National Forest**
Challis, Idaho

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Preacher's Cove Mill site was an active gold processing facility on National Forest System lands situated 180 meters from the edge of the Yankee Fork of the Salmon River. A release of cyanide into the groundwater next to the river was suspected. In July 1994, the Forest Service (FS) worked with the mill operator and the State to drill two new, uncompromised monitoring wells to confirm the release(s). The cost of the new wells was borne by the mill

operator. Since no release was detected, the site will not be placed on the docket. No further CERCLA action was anticipated.

In April 1995, a FS inspection indicated a loss of solution from the cyanide number 2 pond caused by four holes found in the pond liner. The estimated solution loss was 23,000 gallons of solution with a maximum cyanide concentration of 21.5 ppm of weak acid-dissociable cyanide. The mill operator was advised to report this incident to the National Response Center. Groundwater monitoring and flow modeling indicated no risk to the river located 1,400 feet down slope.

The following actions have taken place since July 1995: (1) The National Marine Fisheries Service (NMFS) concurred with the proposal to land-apply the cyanide-pond solution, (2) the operator and the State of Idaho are working on a consent order, (3) drums of petroleum-contaminated soil were hauled offsite, (4) the EPA has reviewed the site and is satisfied with the progress, (5) all hazardous chemicals have either been properly stored, used, or removed, (6) 80 percent of the conventional mill has been salvaged and removed from the site, (7) 182,000 gallons of cyanide-pond solution have been neutralized to the State standard of 0.2 ppm weak acid-dissociable cyanide and have been land-applied, (8) the above-ground storage vault was decommissioned, (9) the mill's water-supply well was converted to a groundwater monitoring well, (10) third- quarter monitoring-well results showed no trace of total or weak acid-dissociable cyanide, (11) the tears in the number 2 pond liner were repaired, (12) pond samples have been analyzed for toxic contaminant leachate process metals, (13) extensive surface drainage rehabilitation work has been completed by the operator, and (14) a 2-foot contour interval map has been prepared. Additional CERCLA actions are not anticipated.

FY 1996 WORK: The FS has been working with the claimant to close the site. The FS prepared a mine-waste sampling plan and is working on a final reclamation plan. Additional sampling and site characterization work have been done. Land application of the detoxified pond solutions was finished. Sludge remaining in the ponds was consolidated into pond number 1 and temporarily encapsulated, awaiting final disposal through the reclamation plan. Additional buildings and equipment were removed. Geotechnical and hydrology reports are being completed for inclusion in the final reclamation plan.

FY 1997 WORK: The IDEQ/Operator Consent Order was signed in December 1996. All structures were removed. Leach ponds numbers 2 and 3 were decommissioned and all leach sludge combined in pond number 1, which was covered with a synthetic liner. Site characterization (ABA, pH, TCLP, SPLP, agronomy) was completed.

FY 1998 WORK: Sludge vault residues were shipped off-site to the Envirosafe site as hazardous waste in compliance with the Consent Order.

FY 1999 WORK: The closure plan design work consisting of hydrologic and geotechnical design criteria, etc. was instituted.

FACILITY: **Tanner Flats Campground/Smelter Site, Wasatch National Forest**
Salt Lake City, Utah

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Forest Service (FS) was notified by the State of Utah in 1996 that the Tanner Flats Campground was located on the land formerly occupied by a lead smelter. The smelter had not been in operation since 1873. The Civilian Conservation Corps constructed the campground during the 1930's. The State of Utah tested the soil on the site and the sediments in the adjacent creek. Background levels of lead range from 200 to 600 mg/kg, with site samples ranging from 38 to 8,670 mg/kg.

The Tanner Flats Campground is heavily used during the summer months because of its proximity to Salt Lake City (about 10 miles). The campground received FS funding in 1996 for expansion, plans for which were put on hold because of the lead problem.

FY 1997 WORK: An extensive set of soil and sediment samples was taken to assess the extent of the lead (Pb) and arsenic (As) contamination at the site. The levels of Pb ranged from a low of 9.2 mg/kg to a high of 53,000 mg/kg, and the As levels ranged between 0.5 and 3,200 mg/kg.

FY 1998 WORK: A Preliminary Assessment (PA) was prepared in February 1998 and an Engineering Evaluation/Cost Analysis (EE/CA) was

completed in April 1998. The removal action work was completed in September 1998.

U.S. FOREST SERVICE
REGION FIVE

FACILITY: **Middle Shooting Range, Angeles National Forest**
Arcadia, California

STATUS: Non-Docket. Non-NPL. National Response Center notified on May 8, 1996, of a suspected reportable quantity of lead in the soil.

NARRATIVE: The Middle Shooting Range is an inactive recreational shooting range near the Forest Service Monte Cristo Ranger Station. It is approximately 5 acres in size and is located in a wide canyon among sharp crested and broken mountains. The area is sparsely vegetated and has fine-grained, sandy soil with some rocks and gravel at the site. There is a perennial spring, Mill Creek's Middle Fork, which crosses the site, and some sections flow beneath ground surface. The nearest residents are at Hidden Spring (1.5 miles from the site) and rely on private wells for their domestic water supply.

FY 1996 WORK: Sampling and testing of the soil at the site for a Project Environmental Assessment resulted in high quantities of lead detected in the soil. The Forest Service proceeded to notify the National Response Center of the release on May 8, 1996. An investigation of the lead in the soil at the shooting range was completed. This investigation includes the health risks to employees and patrons from dermal contact, inhalation, and ingestion of the soil.

FY 1997 WORK: Performed wetlands survey, additional sediment sampling, and amended the PA/SI.

FY 1998 WORK: Prepared Job Hazard Analyses for on-site maintenance and future restoration work.

FACILITY: **Cabin Mine, Eldorado NF**
Placerville, California

STATUS: Non-docket. Non-NPL.

NARRATIVE: The Cabin Mine site is an early 1900's abandoned gold mine that consists of two collapsed adits in the slope adjacent to a small perennial stream. The abandoned mine inventory completed in 1992 noted drainage from the collapsed adits gave indications of possible acidic rock drainage. Subsequent investigation in 1998 found acidic drainage in the range of 3.5 to 4.3 pH and cadmium and other heavy metals at concentrations that in some locations exceeded the maximum contaminant level (MCL) and also the State water quality standards protective of freshwater aquatic life. A baseline PRP search was completed in 1998. A preliminary assessment (PA) was completed in 1999.

FY 1998 WORK: Release confirmed, reconnaissance survey performed, and samples taken. Baseline PRP search completed.

FY 1999 WORK: Preliminary Assessment completed. PRP search completed and initial removal alternatives developed.

FACILITY: **B&B Mine, Inyo National Forest**
Bishop, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The B&B Mine is an abandoned mercury mine and mill. The mine and support facilities consist of 50 acres of dangerous open-pit workings (which overlap earlier underground workings), large quantities of calcine wastes were dumped into the canyon below the mill site. Mercury contamination of the mill and surrounding area is highly probable. The Department of the Interior (Bureau of Mines) completed a field investigation of the site in FY 1995 through an Interagency Agreement with the Forest Service.

FY 1996 WORK: A site characterization report was completed, including basic sampling and data collection.

FY 1998 WORK: Completed PA and PRP Search.

FY 1999 WORK: Contracted for SI.

FACILITY: **Red Rock Mine, Inyo National Forest**
Bishop, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Red Rock Mine is an abandoned mercury mine and mill. The mine and support facilities consist of 20 acres of dangerous open-pit workings (which overlap earlier underground workings), a partially collapsed mill building, 14 support structures, and various waste-dump sites. Mercury contamination of the mill and surrounding area is highly probable. The Department of the Interior (Bureau of Mines) completed a field investigation of the site in FY 1995 through an Interagency Agreement with the Forest Service.

FY 1996 WORK: A site characterization report was completed, including basic sampling and data collection.

FY 1998 WORK: Completed PA and PRP Search.

FY 1999 WORK: Prepared contract for SI.

FACILITY: **Hanna Mill Site, Inyo National Forest**
Bishop, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Hanna Millsite is an abandoned mill for processing gold from the May Lundy Mine complex. The millsite and support facilities are located on 23 acres and consist of mill tailing, foundations, haulage adit, collapsed flotation buildings, and adit rock waste dump. Arsenic and Lead contamination from the waste rock and milling tailings are indicated from sample analyses. The Department of the Interior (Bureau of Mines) completed a field investigation of the site in FY 1995 through an Interagency Agreement with the Forest Service.

FY 1996 WORK: A site characterization report was completed, including basic sampling and data collection.

FY 1998 WORK: Completed PA and PRP Search.

FACILITY: **Cardinal Mine and Mill Site, Inyo National Forest**
Bishop, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Cardinal Mine is an abandoned mine and mill site located on 20 acres. The site consists of five adits, mill tailings, and mine waste rock. The principal concern is the migration of metal bearing materials and impact the aquatic habitat and water quality of Bishop Creek. Migration off site has been indicated in preliminary samples analyses. The Department of the Interior (Bureau of Mines) completed a field investigation of the site in FY 1995 through an Interagency Agreement with the Forest Service.

FY 1996 WORK: A site characterization report was completed, including basic sampling and data collection.

FY 1998 WORK: Completed PRP Search.

FACILITY: **Whitecap Mill, Inyo NF**
Bishop, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The site consists of 25 acres and includes to processing sites for tungsten. The site includes a number of buildings and equipment. The mine waste rock and mill tailing samples results indicated high concentrations of Lead.

FY 1997 WORK: Hazardous waste identified as a result of the flooding. Material was containerized and removed for disposal. Site is in trespass. PRP negotiations are ongoing.

FY 1998 WORK: PCB hazardous waste identified, containerized and removed for disposal. Reported to NRC.

FY 1999 WORK: Completed PA. PRP negotiations are still ongoing.

FACILITY: **Siskon Mine, Six Rivers National Forest,**
Eureka, California.

STATUS: Non-Docket. Non-NPL. The National Response Center was notified in July 1993 of a reportable-quantity release of toxic metals into Copper Creek.

NARRATIVE: This mine is located within a Clean Water Action Plan Prioirty Watershed. The Siskon Mine was operated from 1951 to 1960 and was mined for economic deposits of gold and silver. Gold and silver were extracted using an all-slime cyanide processing plant. The site was identified as a potential hazardous waste site after mill tailings, acidic mine drainage, and more than 399 open cyanide drums containing residues were found on the site. The site is adjacent to Copper Creek, which supports anadromous fish. The site is remote and there are no nearby residents or drinking-water wells.

In July 1993, the Forest Service reported the erosion of the mill tailings into Copper Creek to the National Response Center as a release of reportable quantity of toxic metals. In September 1994, the Forest Service submitted a PA to the EPA. Limited sampling of the mill tailings indicated that there are elevated levels of arsenic, copper, zinc, and cyanide. In September 1995, the EPA decided that the Siskon Mine site is a high priority and a SI required. A Site Inspection and Screening Level Risk Assessment was begun in 1996, with the draft report completed in 1998. Preliminary ARARs were received in 1998. In FY 1999, a Removal Action was completed under contract whereby 819 cyanide drums were treated and disposed of. The known PRPs have been notified.

FY 1996 WORK: A contract for site investigation and sampling, environmental evaluation, and optional EE/CA was awarded. Additional information regarding PRPs was gathered. Identified PRPs were notified of current project status and actions. No good faith offers to proceed with the response action have been received.

FY 1997 WORK: Site Investigation & Environmental Evaluation in progress. PRP inquiries in progress.

FY 1998 WORK: Completed draft SI and risk assessment contract. Obtained preliminary ARARs for the site.

FY 1999 WORK: Completed Removal PA, EE/CA, RAM, and contracted for Cyanide Drum

Removal Action (819 drums). Collected ARARs and PRP data.

FACILITY: **Buzzard Hill Mine, Klamath National Forest**
Yreka, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Buzzard Hill Mine is an abandoned gold mine. The site has acid-generating mine waste, acidic discharge, heavy metal-contaminated soil and relict tailings, and cyanide drums. The discharge and mine waste has contaminated the water and stream sediments of Buzzard Creek. Buzzard Creek flows into the Klamath River, which is designated as Wild and Scenic and is an anadromous fishery. The Department of the Interior (Bureau of Mines) completed a field investigation and report of the site in FY 1996 through an Interagency Agreement with the Forest Service. A Site Inspection and Screening Level Risk Assessment was begun under contract in FY 1996, with the final report completed in FY 1997. In FY 1999, a Removal Action was completed under contract whereby 19 pounds of NaCn (sodium cyanide) were removed and properly disposed of and 125 cyanide drums were treated and properly disposed of.

Several known PRPs were notified in 1998.

FY 1996 WORK: An Environmental Evaluation and optional Engineering Evaluation/Cost Analysis were contracted. A Draft PRP search was completed. PRPs have been identified.

FY 1997 WORK: Environmental Evaluation completed. PRP inquiries in progress.

FY 1998 WORK: PRP Search completed.

FY 1999 WORK: Completed Removal PA, EE/CA, RAM, and contracted for Cyanide Drum Removal Action (125 drums, and 19 pounds of sodium cyanide removed). Collected ARARs and PRP data.

FACILITY: **Oak Bottom Landfill, Six Rivers National Forest, Eureka, California. (The Klamath National Forest is coordinating the project through FY2000)**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Oak Bottom Landfill is a closed permitted dump/sanitary landfill which operated from about 1960-1982. The landfill is surrounded by a FS residential compound/administrative site which was constructed in 1989. A waste characterization study was conducted in FY94 to determine if hazardous wastes were present in the dump/landfill. The study was completed in FY 1996. The findings from the study were not conclusive due to loss of samples and other aspects of the sampling investigation. There could be a lead problem at the site. Landfill waste extends into the yard of one home, and the landfill cover needs periodic maintenance, new cover and vegetation. The landfill is not considered an immediate threat to public health and safety at this time. There are two domestic water wells down gradient and within 1/4 mile of the dump/landfill. The wells supply the residential compound and campground. Nineteen trailers and manufactured homes of the Oak Bottom Residential Compound are within 1,000 feet of the landfill. A campground is within a 1/4 mile of the landfill. Approximately 30 permanent residents reside in the FS residential compound. The Somes Bar elementary school is in the early stages of evaluating whether to relocate to a site on National Forest land adjacent to the landfill and FS administrative site. Requests have been made to construct a ball field on the landfill site.

FY 1997 WORK: Coordinated with State and Local agencies on test results and recommendations.

FY 1998 WORK: No action.

FY 1999 WORK: Began preparation of reports and maps for review by regulatory agencies. PRP review ongoing.

FACILITY: **Old Gray Eagle Mine Tailings, Klamath National Forest, Yreka, California**

STATUS: Docket Site. Non-NPL at this time but may be proposed for NPL. EPA is lead agency.

NARRATIVE: The site is a large 15 acre mine tailings waste dump on mostly private land. Tailings associated with the site are located on about 0.3 acres of National Forest Sytem (NFS) lands. The tailings are from copper mining of the Gray Eagle Mine in the 1940's. The tailings have high concentrations of sulfur, copper, zinc, iron, and

as most of the tailings are unoxidxed, an acidic leachate discharges from the base of the tailings into Indian Creek. The site is located along Indian Creek, 5 miles north of Happy Camp, CA. Indian Creek is an anadromous fish stream. EPA conducted a Site Investigation in 1996, and determined through bioassay, that the leachate is lethal to fish. In November of 1997, a Clean-up and Abatement Order was issued by the North Coast Regional Water Quality Control Board to the Klamath National Forest along with several other parties. EPA took over the responsibility for the entire Site (including the FS portion) as a Time Critical Removal Action in August of 1998. The Klamath National Forest coordinated with EPA on the Removal Action. Tailings were removed form 0.3 acres of NFS land and clean backfill was placed, stabilized and seeded in September, 1998. EPA continued with Removal Action on the tailings on the private land, and re-graded them, placed rip rap, installed a liner and covered the liner with fill. EPA completed this phase of the removal in November, 1998. In November of 1998, heavy rains caused severe erosion of the fill placed over the the liner of the site; the FS portion showed no erosion. Erosion control measures were conducted at the site from winter through spring of 1999.

FY 1996 WORK: Assembled site information, shared information with EPA and observed EPA sampling activities at the site. At this time, it was discovered that NFS lands had tailings waste dumps and associated acidic leachate.

FY 1997 WORK: No Action.

FY 1998 WORK: Coordinated replies and responses to the Clean-up and Abatement Order. Coordinated with EPA and provided engineering and resource considerations and design specifications for the removal action on NFS land. Conducted site inspections and monitoring. A Removal Action on NFS lands was completed in September, 1998.

FY 1999 WORK: Conducted monitoring activities. Coordinated with EPA and North Coast Regional Water Quality Control Board on erosion control measures at site.

FACILITY: **Black Bob Mine Tailings, Los Padres National Forest**
Frazier Park, California

STATUS: Docket. Non-NPL. (Listed on the July 1992, docket). Site Evaluation Accomplished (SEA) classification received from the EPA in August 1995.

NARRATIVE: The Black Bob Mine produced 800 tons of ore from 1932 to 1934. Gold, silver, and lead were extracted from the ore. The tailings have up to 140 ppm of mercury (cyanide and mercury were used in processing the gold). There is concern about a possible mercury release downstream from the tailings located in the bottom of the canyon. The PA with preliminary PRP information was submitted to the EPA in December 1994. In August 1995, EPA Region 9 issued a Site Evaluation Accomplished decision for the site. In FY 1995, the Department of the Interior (Bureau of Mines) completed an environmental risk assessment through an Interagency Agreement with the Forest Service. The Bureau completed an investigation report in August 1995. Identified PRPs were notified in July 1994.

FY 1996 WORK: No work was completed due to absence of funding through FY 2000.

FACILITY: **Gibraltar Mine, Los Padres National Forest**
Santa Barbara, California

STATUS: Docket. Non-NPL. (Listed on the July 1992, docket).

NARRATIVE: The Gibraltar Mine is an abandoned mercury mine located adjacent to a reservoir that supplies water to the city of Santa Barbara. The site consists of an open pit, several adits and shafts, a mill site, tailings that are adjacent to the edge of the reservoir, a cabin, and several piles of junk and vehicles. The tailings have been used as the base of some dirt roads in the area. Preliminary samples for mercury range from nondetectable in the reservoir, 13 ppm to 130 ppm in the tailings, and 28,000 ppm in the slag in the condenser trough at the mill site.

In May 1995, the Forest Service submitted a PA to the EPA. The EPA has decided that the Gibraltar Mine site is a higher priority and required a SI because of the preliminary sample results for mercury and the proximity of the tailings to the Gibraltar Reservoir. In September 1995, the Forest Service submitted the Human Health and Environmental Risk Assessment to the EPA. EPA Region 9

has requested additional information. This information was collected and sent in December 1995. A PRP search was completed in FY 1995 with no viable PRPs identified.

FY 1996 WORK: A contract for EE/CA and assistance with public involvement was awarded.

FY 1997 WORK: Project on hold pending additional PRP investigation.

FY 1998 WORK: Awarded contract for removal action.

FY 1999 WORK: Completed removal action for mine site.

FACILITY: **Eel River Sump, Mendocino National Forest**
Willows, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: This sump is located at the Eel Work Center. This facility is owned and operated by the Forest Service. The sump was used as a disposal pit for waste oil. Test results show that hazardous substances were released. The site is immediately adjacent to the Middle Fork of Eel River, which is designated Wild and Scenic.

FY 1996 WORK: The Removal PA, draft EE/CA, and public notification have been completed. A contract for excavation and classification of soil contaminated with pesticides was awarded.

FY 1997 WORK: Completed EE/CA and awarded contract for removal action.

FY 1998 WORK: Finished removal action work.

FACILITY: **Walker Mine Tailings, Plumas National Forest**
Quincy, California

STATUS: Docket. Non-NPL. (Listed on the December 1989, docket). A Site Evaluation Accomplished classification was received from the EPA in 1992. A Record of Decision was signed on June 10, 1994.

NARRATIVE: Walker Mine is a copper mine located on patented, private land. It operated from 1920 to 1943. The State has plugged the main adit to

stop acidic/metallic water flows. The tailings are located on 100 acres of National Forest System land and are cut by two creeks that are releasing turbid water and iron, copper, and zinc at levels that exceed receiving water limits. Soil is infertile, vegetation is sparse, and the site is affected by wind erosion. A PA/Sampling Inspection was prepared by Dames & Moore and transmitted to the EPA for hazard ranking in 1986. The EPA ranked the site low enough that it did not make the NPL. The Forest Service is working with the State Regional Water Quality Control Board regarding waste discharge, monitoring, and reporting requirements. Solutions include revegetation and channeling clean surface water through the tailings. In 1991, work was performed on the environmental assessment, site mapping, site surveys, monitoring of contaminants, and temporary sediment control. Some of the work started in 1991 (tailings characterization, monitoring, and revegetation planning) was continued in 1992. Two public meetings were held to receive comments and concerns from the community regarding proposed treatment of the site.

In 1993, monitoring wells were installed. In 1993, test plots were constructed to evaluate various methods of erosion control and of fertilization and revegetation of the tailings. A Record of Decision was approved by the Regional Director of Engineering on June 10, 1994. In 1994, preparation for restoration work included hauling soil to Dolly Creek and purchasing seed, fertilizer, and wind fence material. Four acres of wetlands were constructed as a passive water-treatment system, and geomorphic restoration work was completed. A partnership agreement has been established with the Plumas Corporation for remedial construction work. Surface water and monitor-well water sampling continued. In 1995, remediation work continued, including wetland construction for the passive water-treatment system, construction of 52 acres of windfence, stabilization of the stream, and continued monitoring.

A preliminary PRP search was completed in November 1993. This resulted in the identification of Atlantic Richfield Corporation as a PRP. The Forest is continuing to pursue leads on other known PRPs through an extensive PRP search.

FY 1996 WORK: Planted approximately 15 acres of wetland areas. Completed the Human Health and Safety Investigation and Assessment report. The Natural Resource Damage pre-assessment screen, was completed. The FS determined that a full Natural Resource Damage

Assessment will not be pursued. Continued PRP search and documentation. Continued water-quality monitoring. Collected native seed for FY 1997 planting.

FY 1997 WORK: Vegetation planting, surface water monitoring, PRP negotiations, wetland maintenance and topsoil addition.

FY 1998 WORK: Surface water monitoring and PRP negotiations.

FY 1999 WORK: Surface water monitoring and PRP negotiations.

FACILITY: **Flume Camp Mine, Plumas National Forest**
Quincy, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Flume Camp Mine is an abandoned hardrock mine consisting of an open tunnel with indicators of acid mine drainage. Flume Creek drains from the tunnel, and there is no aquatic life downstream. Flume Creek drains directly into Canyon Creek, which is a fishery. The Department of the Interior (Bureau of Mines) completed a field investigation of the site in FY 1995 through an Interagency Agreement.

FY 1996 WORK: The site characterization report was completed, including basic sampling and data collection.

FY 1999 Work: A draft PA was prepared.

FACILITY: **Inventory/PA of Pesticide Sites, San Bernardino NF**
San Bernardino, CA

STATUS: Non-Docket. Non-NPL

NARRATIVE: Available information indicated that empty pesticide and herbicide containers were buried at three different locations on FS property at the Lytle Creek Ranger Station in the 1970s

.

FY 1997 WORK: Inventory and PA for pesticide burial sites.

FY 1998 WORK: Removal of nine 55 – gallon drums, one 30-gallon drum, and three roll-off bins of waste material and contaminated soil at Lytle Creek Site were collected and transported off site for disposal.

FACILITY: **Domeland Wilderness Barrel Removal, Sequoia NF**
Porterville, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: In 1964 a vegetation conversion project was conducted in the Rockhouse Basin in the Domeland Wilderness. Eighteen 5-gallon 2,4-D herbicide containers were abandoned onsite.

FY 1997 Work: A preliminary assessment was completed for the site. It concluded that no "Removal Action" was needed, but that proper disposal of containers was necessary.

FY 1998 Work: The 18 containers were crushed and packed out of the wilderness by mules to eliminate the potential of exposure to humans and wildlife.

FACILITY: **Moreland Mine, Sequoia National Forest**
Porterville, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: This site is a group of historic (abandoned/inactive) and active mine claims at the Greenhorn Ranger District and is located entirely on National Forest System land. The site contains numerous drums, contaminated soils, a mill tailings pond, and waste dumps. A release of arsenic, lead, and mercury has been confirmed at the Jeannette-Grant Mill and the Brightstar tailings.

FY 1996 WORK: A contract was awarded to complete the PA/Sampling Inspection. The PRP was notified and meetings were held regarding CERCLA responsibilities at the site.

FY 1997 WORK: Continue sampling at Brightstar Tailings. PRP negotiations ongoing.

FY 1998 WORK: Drums discovered at Moreland Mill. Sampling reveals lead contamination of soil-like contents.

FY 1999 WORK: Completed PA and PRP Search. AOC negotialtions initiated with PRP for drum removal.

FACILITY: **Drinkwater Gulch Mine, Shasta-Trinity National Forest Redding, California**

STATUS: Non-Docket. Non-NPL. A Site Evaluation Accomplished classification was received from the EPA in September 1995.

NARRATIVE: The FS Mine Inventory Report of the abandoned Drinkwater Gulch gold mine was completed in 1994. Oxidized sulfide-bearing bedrock in the mine indicates a strong potential for acid generation. Standing water in the mine has a pH of 2.84. Waste rock at the site has the potential for eroding into surface waters. Despite the lack of known mining activity in the last 40 years, no vegetation has returned to the general area of the mine or waste piles. The potential for a release of metals and low-pH water through surface water pathways led the FS to proceed with a PA. The FS submitted a PA to the EPA Region 9 in December 1994. In September 1995, the FS received a SEA from EPA Region 9.

FY 1996 WORK: The preliminary SI was completed.

FY 1999 WORK: SI completed. The PRP search yielded no viable PRPs.

FACILITY: **Golden Jubilee Mine Mill, Shasta-Trinity National Forest Redding, California**

STATUS: Non-Docket. Non-NPL. A SEA classification was received from the EPA in September 1995.

NARRATIVE: The FS Mine Inventory Report of the abandoned Golden Jubilee Mill site was completed in 1994. The mill site includes 16 round, galvanized steel tanks ranging in size from 8 to 16 feet in diameter and 3 to 6 feet in height. These tanks and their wooden supports, which are now in varying conditions of collapse, were used for the cyanide vat-leaching operation. The possibility of a cyanide discharge from the mill site to the environment prompted the FS to proceed with a PA. The PA was submitted to the EPA in December

1994. In September 1995, the EPA issued a Site Evaluation Accomplished decision.

FY 1996 WORK: The removal PA/Sampling Inspection was completed. The PRP search yielded no viable PRPs.

FY 1997 WORK: EE/CA and draft Removal Action Memo completed.

FY 1998 WORK: No work completed.

FY 1999 WORK: No work completed.

FACILITY: **Golinsky Mine, Shasta-Trinity National Forest**
Redding, California

STATUS: Docket. Non-NPL. (Listed on the December 1989, docket).

NARRATIVE: The Golinsky Mine is an abandoned copper mine with leachate releasing from the adit. Leachate samples indicate a low pH and the presence of copper, zinc, cadmium, aluminum, and other heavy metals. A PA with alternatives for remedial work was prepared by the FS contractor. The EPA received the PA and requested additional information needed to perform the hazard ranking. This information was forwarded to the EPA on August 21, 1991. Contract work to clear the old mine adit of tunnel debris, obtain hydrogeologic information, and establish monitoring points has been completed, as have proposed solutions for remedial work. The preferred remedial solution, plugging the mine adit, has been delayed because of the subsequent failure of remedial actions (mine plugging) at Mammoth Mine, which is located near Golinsky Mine. In FY 1995, a contract was awarded to conduct a PRP search, to review the existing analytical data, and to provide a field sampling report with recommended alternatives for further action. ASARCO, Inc., was identified as a PRP at the site and negotiations have begun concerning an AOC for a removal action.

FY 1996 WORK: Additional testing as requested by EPA Region 9 was completed. The PRP search was completed.

FY 1997 WORK: Monitoring performed.

FY 1998 WORK: Completed treat ability study.

FY 1999 WORK: Coordinated with the California Regional Water Quality Control Board. Prepared a removal action memorandum.

FACILITY: **Shaver Lake Landfill, Sierra National Forest**
Clovis, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Landfill characterization results from the Forest Service landfill inventory program indicate elevated levels of lead that were the basis of identifying a hazardous substance release. A PA with limited sampling analysis for this site was completed in 1994. Groundwater sampling also shows elevated lead levels. The PA was forwarded to the EPA in September 1994. The EPA Region 9 PA Review issued a SEA decision. In 1995, a site investigation contract was awarded to investigate the extent of waste constituents in the groundwater as required by the California Regional Water Quality Control Board. A PRP search is in progress. The 1995 groundwater investigation found no elevated levels of lead.

FY 1996 WORK: A sampling inspection was completed and groundwater monitoring results are being reviewed by the State.

FY 1998 WORK: Quarterly sampling of monitoring wells.

FY 1999 WORK: Monitoring.

FACILITY: **El Portal Mine, Sierra National Forest**
Mariposa, California

STATUS: Docket. Non-NPL.

NARRATIVE: The El Portal Mine is a barite mine that ceased operation in 1948. As a result of mining activities, about 11,000 cubic yards of mining waste piles lay below the mined hillsides. Some of these waste piles were high in barium content and adjacent to a streambed. A PA was completed in 1988. The EPA Region 9 review determined that a SI was needed. In August 1990, after reviewing the SI, EPA indicated

that no further action was required at the site. A RI/FS was completed in 1991. The Record of Decision was signed in October 1991. The selected remedy included removal and proper disposal of empty barrels containing chemical residues; diversion of acidic water discharge from mine portal 1 onto a permeable, rocky slope; stabilization of the eroding waste rockpile immediately downslope from mine portal 1 through a combination of physical reshaping and revegetation; and surface-water monitoring to verify the level of heavy metals and the pH of surface-water in Pigeon Gulch downstream from the mine. The remediation activities were completed in November 1991.

In 1994, new information surfaced concerning corporate involvement in the El Portal Mine. A PRP search was performed in FY 1995.

FY96-99WORK: The PRP report was completed and the case was referred to the Department of Justice for recovery of response costs incurred by the FS. Settlement negotiations are ongoing with the PRP.

FACILITY: **Juniper Mine, Stanislaus National Forest**
Sonora, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Juniper Mine is an abandoned open-pit uranium mine. Uranium deposits were discovered in 1955, and the mine was worked until the 1970's. The mine has been abandoned since 1986. In 1992, a PA was completed and forwarded to the EPA. In 1993, the EPA reviewed the PA and has decided that a SI is needed at this site. In 1994, a SI Sampling Plan was developed. A contract for sampling and testing was awarded in FY 1995.

FY 1996 WORK: The focused SI sampling was completed and a draft report was received from the contractor. A preliminary PRP search is ongoing.

FY 1998 WORK: PRP search contract awarded.

FACILITY: **Meyers Landfill, Lake Tahoe Basin Management Unit**
South Lake Tahoe, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Meyers Landfill site began accepting waste in 1947. The identities of the users and operators for the first 8 years are currently unknown. A permit was issued by the FS to El Dorado County to operate the landfill site from 1955 to 1959. Operation of the landfill continued under various contractors until 1971. In 1990, the Lahontan Regional Water Quality Control Board ordered the completion of a Solid Waste Assessment Test Report and required monitoring to be conducted at the site.

FY 1996 WORK: A Solid Waste Assessment Test was completed in July 1996. Monitoring results show elevated levels of aluminum, manganese, and iron (above drinking water standards) and periodic releases of vinyl chloride. Although high methane levels have been detected in wells within the landfill, none have been detected offsite. El Dorado County was notified as a PRP. The CERCLA Section104(e) information yielded additional PRPs. CERCLA Section 104(e) letters were sent to other PRPs to determine their connection to the site. The FS is negotiating an Administrative Order of Consent with El Dorado County to install additional monitoring wells and continue monitoring as required by the Lahontan Regional Water Quality Control Board.

FY 1997 WORK: Complete SI and one round of sampling. AOC signed with PRP.

FY 1998 WORK: Groundwater testing and new monitoring well.

FY 1999 WORK: Contract awarded to design and purchase equipment for pump & treat test.

U.S. FOREST SERVICE
REGION SIX

FACILITY: **Sisters Compound Clean up, Deschutes National Forest**

Sisters, Oregon

STATUS: Non-docket. Non-NPL.

NARRATIVE: Soils next to and around the warehouse contaminated with oils and solvents.

FY 97-99 WORK: Utilized Regional contract for investigation and analysis of materials. Completed removal action and clean up of site in 1999.

FACILITY: **Crescent RS Compound, Deschutes National Forest**
Crescent, Oregon

STATUS: Non-Docket. Non-NPL

NARRATIVE: Soils next to and around a warehouse are contaminated with oils, and solvents.

FY 1996 WORK: Work completed in 1996 included investigation for possible removal action. Additional analysis is needed to determine if a removal action is warranted.

FY 97-99 WORK: Utilized Regional contract for follow up investigation and analysis of contaminants. The extent of contamination was much smaller than originally suspected. Completed clean up of site in 1999.

FACILITY: **Scott St. Compound, Deschutes National Forest**
Bend, Oregon

STATUS: Non-Docket. Non-NPL.

NARRATIVE: A subsurface drainfield from the shop floor drain is suspected of contamination from shop operations. Possible contaminants include waste oils, solvents, gasoline, and antifreeze.

FY 1996 WORK: Work completed in 1996 included investigation of the site. Additional analysis is needed to determine if a removal action is necessary.

FY 97-99 WORK: Utilized Regional contract for follow up investigation and analysis of materials and removal action. Decommissioned drainfield and floor drains and completed clean up in 1999.

FACILITY: **Dell Penta Cleanup, Deschutes National Forest**
Bend, Oregon

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Old Forest Service fencepost-treatment site at a Forest work camp. The area involved is approximately 16 feet by 4 feet. The site was used for treatment for over 20 years ending in 1970.

FY 1996 WORK: Contract for an assessment awarded.

FY 97-99 WORK: Removal and clean up scheduled for FY 2000.

FACILITY: **White King/Lucky Lass Inactive Uranium Mines,**
Listed on NPL as Fremont National Forest Uranium Mines
(USDA) Fremont National Forest
Lakeview, Oregon

STATUS: NPL site. This site was listed on the NPL, May 25, 1995.

NARRATIVE: The White King and Lucky Lass uranium mines operated from 1957 to 1961 and then intermittently to 1965. The majority of the mining used open-pit techniques. Water in the White King pit is elevated above EPA water- quality standards for heavy metals and radionuclides. More than one million cubic yards of stockpiled contaminated materials consisting of protore and overburden also contain elevated levels of hazardous substances. Surface water and groundwater sources are also at risk. The larger White King Mine is located on both private land and National Forest System land. The Lucky Lass Mine is located on National Forest System land.

In April 1995, Kerr-McGee Corporation signed an Administrative Order on Consent in which it agreed to perform the necessary work to complete a RI/FS. The FS, the EPA, and the State of Oregon signed the Administrative Order on Consent as regulatory parties. The EPA and the FS signed a Memorandum of Understanding in May 1995, outlining the procedure for coordinating the exercise of CERCLA authorities delegated to each agency. During the field

season of 1995, the FS implemented a time-critical removal action at the White King portion of the site to better control erosion, pending selection and implementation of permanent remedial action. The FS conducted substantial investigations at the site before Kerr-McGee agreed to complete the Remedial Investigation/ Feasibility Study. During the RI/FS process, the FS participated in oversight of Kerr-McGee's work, both directly and through an FS contractor.

FY 1996 WORK: During the 1996 field season, Kerr-McGee completed additional field investigations to meet the goal of completing the RI/FS in 1997.

FY 97-99 Work: Fieldwork on the RI began in 1995 and the RI/FS was finalized in August 1999. Before finalization of the RI/FS, the PRP conducted a study to test the ability to neutralize the White King pond in 1998 with some follow-up work in 1999. It appears that neutralization can be effective and a relatively low cost option for raising the pH in the pond. The Proposed Plan was released on October 1, 1999. It calls for consolidation and capping of two stockpiles at the White King Mine area, neutralization of the White King pond, and removal of some soils from the Lucky Lass stockpile or adjacent areas to be consolidated with the White King stockpile. Selection of the Remedial Action (RA) and issuance of the ROD is expected during 2000. Construction of the RA should begin during the summer of 2001. The FS will participate in oversight of Kerr-McGee's construction work, both directly and through an oversight contractor.

FACILITY: **Lakeview Retardant Base, Fremont National Forest**
Lakeview, Oregon

NARRATIVE: The Lakeview Retardant Base, located at the southern end of the Lakeview Airport, is a leased site and has been operated by the FS and BLM for approximately 20 years. The base uses include storage and supply of fire retardant for planes. Fire retardant used at the site typically contained phosphate, ammonia, nitrate, borate, bentonite, and dye. Other chemical uses include aviation fuel, diesel, and gasoline.

STATUS: Non-Docket. Non-NPL

FY 97-99 WORK: Completed drilling of four bore holes in December, 1998. Testing confirmed elevated levels of metals and nutrients in the soil and groundwater. Anticipate migration of contaminants both laterally and vertically. Additional drilling and testing scheduled for FY 2000.

FACILITY: **Silverlake Penta Site, Fremont National Forest**
Silverlake, Oregon

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The site contains soil-contamination as a result of an old pentachlorophenol post-treatment operation. It is located on the Silverlake Ranger Station compound.

FY 1996 WORK: Investigation and removal of some contaminated material was completed.

FY 97-99 WORK: Approximately 60 tons of contaminated soil was removed. Data gaps required further testing in 1998 to determine the presence of dioxins. In 1999, a risk-based assessment was prepared to address the issue of dioxins. The site is scheduled to be capped in FY 2000 and no further action planned.

FACILITY: **Angel Mine, Fremont National Forest**
Lakeview, Oregon

STATUS: Non-Docket. Non-NPL.

NARRATIVE: This is an old abandoned mercury mine.

FY 1996 WORK: PA completed.

FY 97-99 WORK: The site was divided into two separate projects. One is the mine site and the other is the 20 miles of road impacted by the spreading of contaminated rock from the mine site. After further testing and analysis, EPA issued a "no further action" and Oregon DEQ is supporting the FS recommendation to gate the roads to prevent access to the site. It appears that the site does not contribute any contaminants to groundwater nor is there any movement of contaminated materials off-site.

FACILITY: **Cashman Mill Site Cleanup, Mt Baker-Snoqualmie National Forest, Mountlake Terrace, Washington**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Several carloads of flue dust with high arsenic content were hauled from a NPL site and disposed of at the mill site. PRPs have been identified.

FY 1996 WORK: Finished PA started in 1995. Working with OGC, the Department of Justice, and the EPA to get PRP action.

FY 97-99 WORK: In 1997, approximately 1,900 tons of flue dust and adjacent contaminated soils were removed from the site by a PRP, ARCO, under a CERCLA Sec. 106 UAO and disposed of at a RCRA Subtitle C facility in Grassy Mountain, Utah. A Site Investigation (SI) work plan was developed and implemented in December 1998. The SI report was completed in September 1999. The SI indicates migration of contaminants into the soil and groundwater, as well as uncovered material containing high arsenic concentrations. The SI is currently being evaluated and plans include awarding a contract for the EE/CA in 2000.

FACILITY: **Clearlake Cleanup, Mt. Hood National Forest Government Camp, Oregon**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: This is an old waste area to which contaminated soils were hauled in previous years.

FY 1996 WORK: Awarded a contract for investigation and analysis of materials and removal action.

FY 97-99 WORK: Further testing was conducted in 1997. All clean up work was completed in 1998.

FACILITY: **Motherlode Mine, Ochoco National Forest Prineville, Oregon**

STATUS: Docket. Non-NPL. (Listed on the August 1990, docket). The PA and SI are complete. Hazard Ranking System scoring has not been completed by the EPA.

NARRATIVE: The site is an old mercury mine where mercury may have leached into the soil and groundwater and caused pollution. Vegetation in the area is dead from the suspected contamination. Work completed in 1991 included awarding a contract to a consulting firm for the preparation of a PA/SI. The draft PA was completed and sent to the EPA in 1991. No work was completed in 1992 as the Forest Service waited for the EPA to reply on the PA. The EPA responded in September 1993 that additional soil sampling data was needed to complete the evaluation of the facility. In 1994, additional soil samples were collected and analyzed, and the data sent to the EPA. In 1995, at the request of the EPA, data on recreational fishing in Canyon Creek below the mine site were collected along with fish tissue samples. The fish tissues contained significant levels of mercury (0.5 mg/kg).

FY 1996 WORK: A PRP search was performed, and no viable PRPs were identified. The decision was made to conduct a non-time-critical removal action. A contract for the EE/CA for the removal action was awarded in 1996.

FY 97-99 WORK: The EE/CA was completed in 1999 and the Removal Action contract was awarded in 1999. The contaminated soils will be treated on site and the non-vegetated soils will be re-contoured and vegetated to minimize soil erosion. Completion of the Removal Action is planned for 2001.

FACILITY: **Bailey Gulch Mercury Mine, Rogue River National Forest Applegate, Oregon**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Bailey Gulch mercury mine (abandoned) excavated and processed cinnabar ore on site. A retort converted ore to metallic mercury by vaporization and condensation. FS staff had reported observing spilled mercury on the ground while the retort was in operation. Arsenic, antimony and lead are also suspected as contaminants on the site. A continuous discharge of mine groundwater from an adit had unknown impacts to adjacent anadromous fisheries. A PA was

conducted to determine the extent and significance of contamination at the site and to assess potential impacts to the fisheries.

FY 97-99 WORK: The Regional Contractor completed field sampling of soil, mine waste rock, mine water discharge, surface water, and stream sediments in 1998. The contractor also conducted a historic survey of the mining operations and individuals involved with the unpatented mine. An evaluation of test results and potential contamination transport routes concluded that no further action was recommended with regard to hazardous substances.

FACILITY: **Blue Ledge Copper Mine, Rogue River National Forest**
Copper Butte, California

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Blue Ledge Mine (private land) was a significant copper producer during the early 1900's. There are over 15,000 feet of drifts, stopes and shafts extending 800 feet vertically and 2,000 feet horizontally. Over the last 75 years acid mine drainage and erosion runoff from the mine dumps has caused the demise of aquatic life along four miles of nearby Joe Creek. Toxic concentrations of copper, cadmium, and zinc are present with mine waters being discharged at a pH of 3.1. Extensive metal oxide encrustations and cementing of stream substrate has caused obliteration of fisheries spawning and rearing habitat.

FY 97-99 WORK: A preliminary assessment was proposed during 1998, but subsequently deferred until consultation and involvement of the State of California and EPA. The California North Coast Regional Water Quality Board has conducted a field review and concur with the adverse impacts but has not become financially involved. An initial Natural Resource Damage Assessment is scheduled in 2000.

FACILITY: **Medford Service Center, Rogue River National Forest**
Medford, Oregon

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Rogue River National Forest has maintained a warehouse and vehicle service center in Medford since 1935. There are currently

plans to sell the site and move to another location in Medford. In preparation for a sale, a Phase 1 Environmental Site Assessment was conducted to determine the environmental health of the site as a result of its historical use.

FY 97-99 WORK: The Regional Contractor performed a PA in 1999. It was found that three of four underground fuel and waste oil storage tanks were leaking at the time of their removal in 1988. Vehicle wash areas had discharged untreated water on the site. Bulk storage of fuels, lubricants, chemical and hydraulic fluids had occurred. Hydraulic fluid leaked into the soils and groundwater at the site. In addition, the site may be impacted from four leaking underground storage tanks located approximately ½ mile up gradient.

FACILITY: **Cornucopia Mine, Wallowa-Whitman National Forest**
Halfway, Oregon

STATUS: Non-Docket. Non-NPL.

NARRATIVE: The Cornucopia Mine, located twelve miles north of Halfway, Oregon, was an underground gold producer, which operated intermittently from 1880 to 1940. The ore processing methods used over the years included flotation, mercury amalgamation, and the use of cyanide in a leaching process. The tailings from the mill were deposited in two impoundments along Pine Creek. In 1979, United Nuclear (now owned by General Electric) purchased the property to evaluate its potential for resuming economic mining. The conclusions were negative. Approximately 1/3 of the tailings are located on National Forest System lands.

A FS trailhead had been erected on the lower tailings impoundment (on private land) for a trail that accessed the Eagle Cap Wilderness. In 1990, the Wallowa Whitman National Forest conducted a brief sampling event to determine the presence of any deleterious substances in the tailings. Elevated arsenic and lead were indicated in these samples. As a result, the FS moved the trailhead off-site, however, this site was not as convenient to the public as the original. The FS continued involvement in this analysis is to determine what, if any, mitigations would be required to make the tailings a safe place for the original trailhead.

FY 97-99 WORK: In 1999, a Site Characterization and Risk Analysis was conducted to more thoroughly evaluate the tailings impoundments. The Oregon Department of Environmental Quality (DEQ) was also involved in this analysis.

FACILITY: **Temperance Creek Cleanup, Wallowa-Whitman National Forest**
Enterprise, Oregon

STATUS: Non-Docket. Non-NPL.

NARRATIVE: This site was an active sheep ranch prior to FS acquisition in 1976. Ranch debris and site were inventoried in 1996. Oil stained soil around the gas house was investigated.

FY 97-99 WORK: The Regional Contractor conducted a preliminary assessment in 1997 and found pesticide contaminated soils. In 1998 a partial soil removal was completed. In 1999 a final assessment and testing revealed clean up was close to state criteria. Oregon DEQ will review the site in 2000. Final clean up will follow the DEQ review.

FACILITY: **Holden Mine Tailing Piles, Wenatchee National Forest**
Holden, Washington

STATUS: Docket. Non-NPL. (Listed on the February 1988, docket). Removal action completed. Based on SI data collected by the Forest Service in 1994, EPA re-ranked the site under the revised HRS. The site scores high enough for the NPL but the State of Washington has not requested NPL listing and EPA has no plans to place the site on the NPL.

NARRATIVE: During operation (1938 to 1957) about 57 miles of underground mine workings were developed. About 8.5 million tons of mill tailings from copper, zinc, gold, and silver mining operations were placed on National Forest System lands near Railroad Creek, covering approximately 90 acres. Several large piles of waste rock removed from the mine are located near the mine portal and at various locations throughout the site bringing the total area of disturbance to approximately 120 acres. During the period 1988 to 1992, the Forest Service conducted an interim action at the Holden

Mine at a cost of $3.2 million that reduced erosion of the tailings piles by installing stream bank protection, rerouting drainage, and covering the tailings piles with gravel, which also reduced dust generation and facilitated initial revegetation. Work completed in 1994 included collection of EPA-directed SI data; monitoring of water, fish tissue, vegetation, and air; and PRP discussions. In 1995, the Department of the Interior (Bureau of Mines) began a characterization study to determine how leachate continues to enter Railroad Creek, causing streambed cementation and accompanying loss of fish habitat. Preliminary discussions began with the PRPs.

FY 96-99 Work: In 1996, Alumet (now known as Intalco) responded to the Department of Justice as the PRP for the Holden Mine Site. Intalco hired a consultant to conduct a data summary of the site as a first step toward a RI/FS investigation. The Forest Service hired an oversight contractor to review and comment on the data summary from the PRP. Negotiations were begun between Intalco and the Forest Service, EPA and Washington Department of Ecology (Agencies) responsible to ensure remediation of this site.

In the spring of 1997, as negotiations with the PRP on an Administrative Order on Consent (AOC) were in progress, the PRP began gathering site RI characterization data under oversight of the Agencies. On April 11, 1998, Intalco signed an Administrative Order on Consent (AOC) in which it agreed to perform the necessary work to complete a Remedial Investigation/Feasibility Study, including an injury determination and other appropriate natural resource damage assessment activities. The Forest Service, EPA and the Washington State Department of Ecology signed the AOC as regulatory parties. A Memorandum of Understanding (dated March 24, 1998) among the Agencies designates the Forest Service as lead agency directing performance of the RI/FS. In conjunction with the cleanup study, the Forest Service, as lead Natural Resource Trustee, is also directing natural resource damage assessment activities at the site under CERCLA. In August 1998, the Forest Service reached settlement with Intalco for recovery of $3.1 million of past Forest Service costs at this site.

A Draft Final Remedial Investigation Report was delivered to the Agencies for review in July 1999. Also during 1999, the initial stages of the Feasibility Study began, which primarily involved screening of cleanup technologies.

FACILITY: **White Pass Work Center Cleanup, Wenatchee National Forest**
Tieton, Washington

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Site consists of soils contaminated with oils, fuels, solvents, and pentchlorophenol next to an abandoned gas house at the White Pass Work Center.

FY 1996 WORK: An investigation and the partial removal of contaminated soils were completed.

FY 1997 WORK: All clean up work was completed in June 1997.

FACILITY: **Chinook Pass Work Center Cleanup, Wenatchee National Forest**
Naches, Washington

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Site consists of soils contaminated with oils, fuels, solvents, and pentachlorophenol at the Chinook Pass Work Center.

FY 1996 WORK: An investigation and partial removal of contaminated soils were completed.

FY 1997 WORK: All clean up work was completed in August 1997.

FACILITY: **Shiny Rock Mine, Willamette National Forest**
Eugene, Oregon

STATUS: Docket. Non-NPL. (Listed on the December 1989 docket). Time-critical removal action completed. No Further Response Action Planned classification issued by the EPA.

NARRATIVE: The site is located about 5 miles from Elkhorn, Oregon. It is an inactive mine tailings disposal area located on National Forest System land. Work completed in 1990 included a PA. Work completed in 1991 included initial PRP notification, preparation of a SI report, and time-critical removal action. Work completed in

1992 included working with the PRPs on cost-recovery actions. In 1992, the Forest Service was notified by the EPA that no further action is required by the EPA and to work with the State of Oregon on any requirements they may have. In 1993, the Forest Service continued to pursue cost recovery, repaired the temporary tailings cover, and installed a fence and posted signs around the site. In 1994, work included completion of the pre-referral report to DOJ and discussions with the PRP, attempting to get them involved. A contract was awarded for the first phase of a RI/ FS. In 1995, a PRP began site characterization studies, including additional sampling and tailings cover replacement to determine cleanup strategies.

FY 1996 WORK: A PRP prepared a draft and final remedial investigation, and a draft and final feasibility study. The Forest Service issued, in conjunction with the State of Oregon, a draft Record of Decision.

FY 97-99 WORK: The PRP completed the Remedial Action in 1997. The site is currently being monitored by the Forest Service.

FACILITY: **Sweet Home Work Center, Willamette National Forest**
Sweet Home, Oregon

STATUS: Non-Docket. Non-NPL.

NARRATIVE: In 1992 the Oregon Health Division detected solvents in a number of water supply wells in Sweet Home. In 1994-1995, DEQ sampled private wells and preformed preliminary assessments at several sites. In 1996, the EPA performed a removal action at Ridgeway Logging to eliminate a suspected primary soil and groundwater contaminant, PCE. In 1995, the Forest Service completed a Removal Assessment of the work center site to determine the presence and extent of possible TCA contamination that might have come from abandoned asphalt testing laboratory. In 1999, Hart Crowser completed an area-wide site investigative report identifying contaminants of concern (including TCA) and 3 other possible sources of contaminations including the FS Work Center.

FY 97-99 WORK Oregon Department of Environmental Quality (ODEQ) is in the process of preparing a Risk Assessment Report due in 2000. DEQ continues to monitor the area and has completed the DEQ sponsored Hart Crowser Area-Wide Investigative Report.

U.S. FOREST SERVICE
REGION EIGHT

FACILITY: **Gulfport Laboratory and Harrison Experimental Forest Southern Research Station, Mississippi**

STATUS: Non-Docket. Non-NPL. PA's were completed for both sites.

NARRATIVE: A retired Forest Service scientist reported disposal of pesticides at two sites in the Southern Research Station. A CERCLA response was initiated in February 1996. Removal Action project specifications were completed in September 1996. A removal action was initiated in the third quarter of 1997. Testing and removals continued into 1999.

FY1997-99 WORK: Removal actions, follow-up testing, and additional removals occurred from 1997 – 1999. Closure of both sites achieved in 1999.

FACILITY: **Graham County Sanitary Landfill, Nantahala National Forest Robbinsville, North Carolina**

STATUS: Docket. Non-NPL. (Listed on the February 1988, docket). A PA was sent to the EPA in 1985. A SI report was submitted to the EPA in February 1994.

NARRATIVE: This landfill was owned and operated by Graham County under a special-use authorization from the Forest Service. The special use permit for operating a landfill was terminated in December 1993. The landfill contains furniture-manufacturing and varnish wastes. The manufacturer discontinued disposal of manufacturing wastes into the landfill in 1980. The Forest Service completed a PA in 1985. The EPA requested a Site Investigation. The SI fieldwork was started in December 1992 and was completed and submitted to EPA in 1994. The Forest Service has no record of a response from the EPA. Landfill operations were terminated in April 1994. The site was officially closed out in 1996.

FY1997-99 WORK: Graham County continues to meet State requirements for inspection and water quality monitoring under NCDHS permit 38-01. As of 1998, they are not in compliance with the reporting schedule. The County has made a request to the state to stop monitoring.

FACILITY: **Swain County Sanitary Landfill, Nantahala National Forest Bryson City, North Carolina.**

STATUS: Docket. Non-NPL. (Listed on the February 1988, docket). A PA was sent to the EPA in 1984. A SI report was submitted to the EPA in February 1994. Listed on CERCLIS as "Not on NPL," and "Non-federal site."

NARRATIVE: This landfill was owned and operated by Swain County under a special-use authorization from the FS. The landfill contains furniture-manufacturing and varnish wastes. The manufacturer discontinued disposal of manufacturing wastes into the landfill in 1976. The Forest Service completed PA in 1984. The EPA requested a Site Investigation. The SI fieldwork was started in December 1992 and was completed and submitted to EPA in 1994.

FY1997-99 WORK: The landfill continues to accept demolition debris under a FS special-use permit. Swain County continues to meet State requirements for inspection and water quality monitoring under NCDHS permit 87-01.

FACILITY: **Appalachian Smelting and Refining Company Battery Casing Dump**
Watauga District, Cherokee National Forest, Bristol, Tennessee

STATUS: A limited PA/Sampling Inspection was prepared and submitted to the EPA by the Tennessee Department of Environmental Conservation- Superfund in September 1994.

NARRATIVE: Abandoned 50-year-old, lead-acid battery-casing dump sites from a lead smelter manufacturer were discovered by the State of Tennessee on lands managed by the Forest Service (FS), the Tennessee Valley Authority (TVA), and on private land. The dumpsites are located on the edge of South Holston Reservoir, a public water supply. The State Department of Environmental Conservation-Superfund prepared a limited PA/Sampling Inspection in December 1993 and submitted it to the EPA in September 1994. The TVA and the FS jointly performed additional surveying and testing. The FS initiated a PRP search in July 1995 and completed it in December 1995. Two PRPs were identified. Final review

concluded neither was viable. The Removal Site Evaluation was completed in September 1996. Removal Action project specifications were initiated in September 1996. Due to the exorbitant cost for transport and disposal of a hazardous waste, alternative treatment and disposal methods were reviewed. In 2000, the site will be cleared of underbrush and the battery casings and contaminated soil removed to a disposal site.

FY1997-99 WORK: The EE/CA was completed in 1997. Identification of a disposal site delayed progress. A removal action is planned for October 2000.

FACILITY: **Olustee Office Pesticide Site, Olustee National Forest**
Olustee, Florida

STATUS: Non-Docket. Non-NPL. National Response Center was notified of possible release in September 1991.

NARRATIVE: Routine onsite excavation in September 1991 uncovered chlordane contamination. A CERCLA response was initiated in February 1992. A Removal Evaluation Report was completed in 1994 and was amended in 1995. A removal action will commence in the third quarter of FY 1997. Monitoring wells were installed and scheduled sampling accomplished.

FY 97-99 WORK: Completed Removal Action, which had been delayed by unseasonal rains. Scheduled testing indicated no contamination movement. The State approved site closure and the monitoring wells are to be closed in 2000.

FACILITY: **Tana Longbell Site #3, Angelina National Forest**
Lufkin, Texas

STATUS: Docket. Non-NPL. (Listed on the April 1995, docket). The National Response Center was notified of a possible release in November 1994.

NARRATIVE: An oil company disposed of drilling wastes and solvents in a series of trenches on the site. A response was initiated in October 1994. Contaminated drilling materials were verified. The oil company was directed in December 1994 to clean up the site under a clause in

their Operating Permit. Site cleanup was completed in September 1995. The Forest Service was reimbursed for oversight costs.

FY97-99 WORK: Monitoring was continued by an oil company contractor. No sign of remaining contamination has been found.

U.S. FOREST SERVICE
REGION NINE

FACILITY: **Branchville Site, Hoosier National Forest**
Tell City, Indiana

STATUS: Docket. Non-NPL. (Listed on the February 1993, docket).

NARRATIVE: The Branchville site is located on National Forest System lands adjacent to the Indiana State Prison near the community of Branchville. An unknown amount (10 to 40 gallons) of 2,4-D was buried on site around 1980. In January 1992, a SI was completed. In FY 1994, arrangements were made with the Forest Products Laboratory in Madison, Wisconsin, to bioremediate the site. Samples were taken to see if the micro-organisms they intended to use would work. The 2,4-D concentrations in the samples were so weak that it was hard to tell if it was worth the effort. The EPA was contacted to see if a SEA status could be granted. The EPA requested a copy of the site investigation to determine if any remediation is necessary. The Forest Service decided to conduct further testing to determine if the concentrations have changed since 1992.

FY1997-99 WORK: An environmental consulting firm was contracted by the Hoosier National Forest to perform environmental investigations at the Branchville Site. A report was generated documenting the site background, investigation objectives, sampling activities, results and comparisons of previous sampling, environmental fate and transport, and screening risk assessment. The report recommends no further action for the Branchville Site. This report will be submitted to the EPA for review.

FACILITY: **Midewin National Tallgrass Prairie**
Wilmington, Illinois

STATUS: NPL Site where the Army is the lead agency. Additional investigation is planned for lands already transferred to the Forest Service.

NARRATIVE: The USDA Forest Service has acquired large portions of the former Joliet Army Ammunitions Plant (JOAAP) facility for development of the Midewin National Tallgrass Prairie (NTP). Additional

property would be transferred once clean-up is completed on those lands. An interim Record of Decision (ROD) for cleanups of lands associated with the JOAAP was signed in October 1998. Human Health and Ecological Risk Assessment Teams and a Management Group were established to recommend final remediation goals to the decision makers (USEPA, IEPA and Army). Representatives from the Forest Service, USDA, and their consultants are participating on the risk assessment teams and management group. Recommended remediation goals are expected to be established in 2001 and a final ROD signed in 2002.

FY1997-98 WORK: In FY 1998, confirmatory sampling was conducted on the lands already transferred to the Midewin NTP. This was done because information found in the administrative record indicated that there were still some areas of concern on this land. Most land was found uncontaminated, and the administrative record information concerning arsenic use on the fence lines was confirmed.

FY 1999 WORK: The results of the FY 1998, confirmatory sampling led to further investigation of arsenic along fencelines and in railroad ballast.

In early 1999, preliminary meetings were held to develop the details of the Risk Assessment Groups and Management Group. In April 1999, the first meetings of the Ecological and Human Health Groups were held to begin the development of recommendations. Meetings continued approximately monthly for the balance of the year and are expected to continue through most of 2000. Representatives of the Forest Service and the Forest Service consultants are full consensus members on the team. The FS and USDA are also represented on the Management Group.

FACILITY: **Baldwin Administration Site, Huron-Manistee National Forest Baldwin, Michigan**

STATUS: Docket. Non-NPL. Non-time critical removal action is on-going.

NARRATIVE: The property has been in operation since approximately 1936 and is currently an active ranger station. Historical site activities included tree harvesting, fire control, wood preserving, and vehicle and equipment maintenance and repair. Materials stored at the site have reportedly included petroleum products, paints, pesticides, herbicides, and wood preservatives.

FY 1997 WORK: In 1997, a preliminary site assessment was completed. The PA concluded that site activities appear to have impacted soil and groundwater at the site in the vicinity of the drywells and settling basin. The extent of impact was not determined.

FY 1998 WORK: In 1998, a removal site investigation was conducted. Surface soil was found to exceed generic residential direct contact criteria for lead. This appeared to be associated with paint chips on the ground along some of the buildings. Localized groundwater contamination was also detected onsite in a limited area near the vicinity of the settling basin and drywells. The likely source of the contaminant plume appeared to be the historical operation of the settling basin and associated drywell system.

FY 1999 WORK: In FY 1999, an EE/CA was completed. A non-time critical removal was initiated for the removal of lead contaminated surfaces soils, the drywell, settling basin and surrounding soils. Natural attenuation and groundwater monitoring was planned to address groundwater impacts. During Non-Time-Critical Removal Action (NTCRA) activities, free product was discovered on the top of the water table directly downgradient of the drywell and settling basin. A continuation of the NTCRA is planned for FY 2000 to address the free product on the top of the water table by constructing a product recovery system. The latest round of groundwater sample results shows no exceedances of Michigan Part 201 health-based drinking water criteria, except for Iron and Manganese, which exceeded the aesthetic criteria.

FACILITY: **Moran Work Center, Hiawatha National Forest**
Moran, Michigan

STATUS: Non-Docket. Non-NPL. A PA was sent to US EPA in 1993. An expanded PA was sent to EPA and the MDEQ in 1997. No further work is planned.

NARRATIVE: A PA was completed in 1993. Several areas of concern were identified in this PA. These include a maintenance area consisting of bare ground (approximately 2,500 square feet) where heavy equipment was serviced in the past. There is a storage building with a very deteriorated and cracked concrete floor where drums and cans of oil, fuels, and solvents were stored. Several partially filled 55-gallon drums with unidentified contents were stored outside of

the building. The Moran Work Center is located directly in the residential area of the community of Moran.

FY 1997 WORK: An expanded Preliminary Assessment with soil and groundwater sampling was completed. The results of the investigation concluded that there were no exceedances of the relevant Michigan Part 201 health based soil and drinking water criteria. The report was submitted to the MDEQ and US EPA and no response was received. No further work was planned.

FACILITY: **Moran Landfill, Hiawatha National Forest**
Moran, Michigan

STATUS: Non-Docket. Non-NPL. A PA was sent to the EPA in 1993. An expanded PA was completed in 1997. No further work is planned.

NARRATIVE: This landfill was operated by Mackinac County and was obtained in a land exchange from the State of Michigan in 1980. Lands records indicate that this landfill, also known as Brevoort Township Dump, was closed by the State of Michigan. The site is estimated to cover about 5 acres. A PA was completed for this site and sent to the EPA in 1993.

FY 1997 WORK: Groundwater monitoring wells were installed and an expanded preliminary assessment was completed.

FY 1998 WORK: A second round of groundwater sampling was completed in FY 1998. The results of both groundwater sampling events showed that only Iron and Manganese were being detected above Michigan's Part 201 drinking water criteria. The criteria for these metals are aesthetic based and the aquifer is not used for drinking water because it is naturally high with other compounds. For these reasons no further work was planned. The reports were submitted to US EPA and the MDEQ and no response was received.

FACILITY: **Aldrin Disposal Site, Hiawatha National Forest**
Raco, Michigan

STATUS: Non-Docket. Non-NPL. No further work is planned.

NARRATIVE: There is evidence gained through the Forest's completed inventory program that the Forest Service buried one to three drums of aldrin in the Forest near the Raco Work Center during the late 1960's to early 1970's.

FY 1997 WORK: A geophysical investigation and subsurface excavation was performed. The buried drums could not be located in the area that was suspected to be the site. No other clues were available as to the exact location of the site. No further work was performed, since the site could not be located.

FACILITY: **Williams Landing, Hiawatha National Forest**
Grand Island National Recreation Area, Michigan

STATUS: Non-Docket. Non-NPL. The PA was sent to the EPA in 1993. Soil and Groundwater sample results were sent to EPA and MDEQ in 1996. No further work is planned.

NARRATIVE: This site is composed of abandoned facilities used during the logging of Grand Island. The facilities are now located in the Grand Island National Recreation Area. This site includes an equipment maintenance shed site, a chemical storage warehouse site, and a treated-log storage site, all of which are located at Williams Landing. It is reported that an underground storage tank was used at this site, but the location is unknown. The PA report and preliminary HRS scores were completed in 1993.

In 1996, additional investigation, which included soil and groundwater sampling, was performed at this site. The drinking water well, which is not in use, was sampled and analyzed for semivolatile organic compounds, volatile organic compounds, pesticides, and polychlorinated biphenyls. The results showed no evidence of any of these compounds in the groundwater from this well. In the area of the treated-log storage site, a composite soil sample was taken. The sample was analyzed for creosote and pentachlorophenol compounds. The groundwater and soil results showed no presence of any of these compounds. A report summarizing these results was compiled and sent to the EPA and the Michigan Department of Environmental Quality in November 1996. No response or comments were received from either agency. Based on the results of this analytical data, no evidence exists that

suggests a release has occurred, and therefore no further investigation was planned.

FY1997-99 WORK: No work was performed in 1997 and no further work is planned.

FACILITY: **Munising Sanitary Landfill, Hiawatha National Forest Munising, Michigan**

STATUS: Docket. Non-NPL. (Listed on the December 1989, docket). A PA was sent to the EPA in October 1991. Action at the site has been conducted in compliance with State of Michigan solid waste management regulations.

NARRATIVE: This sanitary landfill began operation during the 1960's under a Forest Service special-use permit issued to the City of Munising for disposal of residential solid waste. The landfill is located on National Forest System lands in a sandy area with a high groundwater table and was constructed without a liner or clay barrier. The original site occupied approximately 30 acres. On December 31, 1990, the Forest Service closed the landfill. The landfill had not been properly capped and groundwater was being impacted from the site. A participating agreement for closure of the landfill was signed in July 1996 between the Forest Service and nine parties.

FY1997-99 WORK: A contract for capping the landfill was awarded by the Landfill Authority in December 1996. The landfill was certified closed by the State of Michigan on August 12, 1998. In addition to the existing 23 groundwater-monitoring wells, six additional monitoring wells were installed downgradient of the site at the property boundary and along Wetmore Lake. A hydrogeological study was completed. Groundwater is venting to Wetmore Lake and the Forest Service manages the property up to Wetmore Lake. Iron and Manganese continue to be detected at high levels downgradient of the landfill. Tetrachloroethene was detected above Michigan's health based drinking criteria in one round only. Groundwater monitoring is planned to continue at some level for a thirty-year period.

FACILITY: **Nahma Sanitary Landfill, Hiawatha National Forest**

Nahma, Michigan

STATUS: Docket. Non-NPL. (Listed on the April 1995, docket). No further work is anticipated, pending MDEQ concurrence.

NARRATIVE: The local government obtained a Forest Service special use permit for operation of the landfill. It was licensed as a modified dump by the State. The landfill ceased operation in 1989. The site is not capped or lined and is located in sandy soils. There is uncertainty as to past management and activities at the site, but it is believed that only domestic trash was placed in the landfill. Ten groundwater-monitoring wells with dedicated equipment were installed at the site in 1990. Groundwater samples were collected in 1991, 1993, 1998, and in the spring and fall of 1999. The PA report and preliminary HRS score were completed in 1993.

FY1998-99 WORK: In FY 1998 groundwater samples were collected and analyzed for VOCs, SVOCs, metals, cyanide, PCB's and pesticides.

In FY 1999 two rounds of groundwater samples were collected. A surface water sample was collected downgradient of the site. Aluminum, iron and manganese were the only target analytical parameters for which some positively reported concentrations consistently exceeded applicable Michigan Part 201 groundwater criteria in 1998 and 1999. These compounds were not detected at concentrations that present a risk to human health or the environment. No surface water target analytical parameters were reported at concentrations that exceeded applicable Michigan Part 31 surface water criteria. Based on these results, no further work was planned for the site. The reports and a letter stating that no further work was planned were sent to the MDEQ. To date, no response has been received.

FACILITY: **Bay Mills Sanitary Landfill, Hiawatha National Forest FR3076, Bay Mills, Michigan**

STATUS: Non-Docket. The PA was sent to the EPA in 1993. The site is being further evaluated to determine if there is a release of hazardous substances.

NARRATIVE: This historic dump was operated from approximately the 1940's to 1974. Indiscriminate dumping may have occurred after the dump

was closed to the public in 1974. Records, such as a modified-dump license, indicate that the dump was operated by Superior Township and that the dump was referred to as Superior Township Dump. Forest Service special-use status for this site is unknown. It is a township dump with no liner and is not capped properly. The site is covered with soil, but not an impermeable cap and is unlined. Operational information for the landfill indicates that domestic trash, white goods, junk cars, and demolition debris were disposed of at the site. Domestic trash was generally dumped in trenches at the site and was burned before being covered. Waste such as demolition debris, white goods, and junk cars were dumped in the ravine on the south side of the site, where a creek flows through. Groundwater flowing beneath the site discharges to the creek.

A PA and scoring were completed in 1993. An expanded PA that included groundwater, sediment, and soil sampling was completed in 1994. The report recommended further investigation in regard to groundwater and surface water because of insufficient data and because there is a perched groundwater zone that needs evaluation.

FY1997-99 WORK: Groundwater samples were collected in 1998. In 1999, groundwater and surface water samples were collected. An additional monitoring well was installed to intercept a perched groundwater zone. Metals concentrations in the surface water samples were detected below the MDEQ Part 31 surface water criteria, concentrations of aluminum, iron, and manganese in groundwater samples exceeded the MDEQ Part201 drinking water criteria. The drinking water criteria for these metals are aesthetic criteria, rather than health based. Concentrations of barium, manganese, and mercury were detected above MDEQ Part 201 GSI criteria. Installation of an additional well and an additional round of groundwater and surface water sampling are planned for FY 2000.

FACILITY: **Byers Lake Storage Shed, Hiawatha National Forest**
Big Island Lake Wilderness, Michigan

STATUS: Docket. Non-NPL. (Listed on the April 1995, docket). No further work is planned.

NARRATIVE: This site was part of a former summer camp that has since become part of a wilderness area. A pesticide storage shed containing pesticides and other chemicals was discovered at the site in 1991.

The pesticides and chemicals were properly removed and disposed of. The results from two composite soil samples taken in 1991 showed that several pesticides were detected in the soil at levels above the Michigan Part 201 Residential Cleanup criteria. The groundwater was also sampled from the well on site and no pesticides were detected. The PA report was completed in 1993.

In 1996, the Forest Service contracted with a consultant to review the available information and assist in determining what options were available for this site. To determine the extent of contamination, 20 soil samples were taken from locations recommended by the consultant. The samples were analyzed for organochloride pesticides using Michigan Part 201 detection limits. The results indicated low levels of 4,4-DDE, 4,4-DDT, 4,4-DDD, chlordane, and heptachlor epoxide. However, none of the compounds were above Michigan Part 201 Residential Cleanup criteria. A report summarizing the results and past information from this site was prepared.

FY 1997 WORK: In 1997, this report was sent to EPA and the MDEQ and no response was received. Based on the results, no further work was planned for this site.

FACILITY: **DDT Disposal Site, Ottawa National Forest**
Ironwood, Michigan

STATUS: Non-Docket. Non-NPL. The Forest Service completed a Removal Site Evaluation in 1995, a Time-Critical Removal Action in 1995, and a second Time-Critical Removal Action in 1996. In 1997, the Forest Service initiated a Non-Time-Critical Removal Action that included additional site characterization in September of 1997 and July of 1998. The draft EE/CA was completed in May of 1999.

NARRATIVE: In the mid-1960's, the Forest Service disposed of approximately twenty-three 55-gallon drums of a DDT spray solution in a sand borrow pit located in an isolated portion of the Forest. In 1991, during the HAZMAT inventory process, the Forest Service became aware of the incident. In 1991, ground-penetrating radar and electromagnetic surveys were performed in an unsuccessful attempt to locate the site. In 1994, a more extensive investigation was performed, and the site was located. A soil boring confirmed DDT and various volatile and semivolatile organic compounds had

migrated to the soil. The Forest notified the National Response Center on November 3, 1994. During the site evaluation process performed in July 1995, a test pit was dug and five drums were uncovered. The drums were badly deteriorated. A time-critical removal action was initiated and 23 drums, several sacks of pure DDT, and approximately 100 tons of soil were removed and incinerated off site in November 1995. In the fall of 1996, a second Time-Critical Removal Action was performed to remove remaining contaminated soils within reach of conventional excavation methods (down to 30 feet). Approximately 450 tons of contaminantd soil were removed and incinerated, and a cap was installed over the site. In 1997, the Forest Service initiated a Non-Time-Critical Removal Action that included additional site characterization in September of 1997 and July of 1998. The draft EE/CA was completed in May 1999. The Forest Service is currently negotiating the amount of additional work needed at the Site with EPA, Michigan Department of Environmental Quality (MDEQ), and Lac Vieux Desert Indian Tribe.

FY1997-99 WORK: In 1997, two additional monitoring well, MW06 and MW07, were installed and developed. MW07 was located up gradient, as an additional background well and MW06 was located down gradient. All wells were sampled and slug tested. After contaminant screening, following RAGs guidelines, all contaminants were eliminated accept for 4,4-DDT, which was detected above Michigan Residential Cleanup Criteria (RCC) in MW01 (the background well). Filtered samples from the same well showed low-level detections, indicating DDT was dissolved at very low levels in groundwater and the higher concentrations were entrained to the suspended fine soil particles. Solute transport modeling was conducted, which indicated that no contaminants would reach any receptors above their ecological threshold screening values.

In 1998, one round of water samples were collected from all of the monitoring wells. In addition, several filter and unfiltered samples were collected from monitoring MW01. Analytical results confirmed that DDT detected in MW01 was entrained to the suspended fines and not present in the groundwater above the RCC value. Soil samples were collected from a depression located approximately 200 feet south of the site. After contaminant screening, no contaminants of concern were identified and the site was eliminated as a possible second source area. The Community Relation Plan was completed.

In 1999, a draft EE/CA was prepared, reviewed internally and revised. The document was then released to EPA, MDEQ and Lac Vieux Desert Indian Tribe. The Tribe asked for technical assistance from EPA in regards to reviewing the draft EE/CA. The Forest Service extended EPA's review time, and comments were provided on August 4, 1999. A meeting was held on February 16, 2000, to discuss EPA's comments and other Tribal concerns.

FACILITY: **Camp Gibbs Landfill, Ottawa National Forest**
Ironwood, Michigan

STATUS: Non-Docket. Non-NPL. PA was completed in FY 1993 but has not been submitted to the EPA.

NARRATIVE: The Forest Service and others used Camp Gibbs dump between 1930 and 1960. Camp Gibbs was a previous Civilian Conservation Corps Camp located on National Forest System lands. It appears that the dump was also used by the State of Michigan when they operated the camp for transient housing around the mid-1950's. The site was first investigated in FY 1992 under the forest inventory program. In FY 1993, a PA produced a site score of 50. In FY 1994, an expanded PA was performed and the site was rescored, which also resulted in a score of 50. As part of the expanded PA, three monitoring wells were installed, soil borings were collected, and surface water and sediments in the adjacent wetlands were sampled. Several contaminants at low levels were identified: detected in groundwater were arsenic at 2 ppb (compared to state standard of 50 ppb) and zinc at 130 ppb (compared to state standard of 2400 ppb); detected in soils were arsenic at 1210 ppb (compared to state standard of 1000 ppb); antimony at 1,610,000 ppb (compared to state standard of 500 ppb); and lead at 39,400 ppb (compared to state standard of 80 ppb); DDT at 62 ppb is present in the sediments in the wetland. In 1997, the Forest Archaeologist completed a report that documented past use of the Camp and the role and responsibilities of the Department of Army in operating the Camp during the time frame the Dump was in use. Based on the report, the Department of Army and State of Michigan may be PRP's.

FY1997–99 WORK: No additional work has been performed at the Site. The USDA thought the Site might be best addressed as an Army FUD Site. An EE/CA is now planned for FY 2002.

FACILITY: **Duncan Township Landfill, Ottawa National Forest**
Ironwood, Michigan

STATUS: Docket. Non-NPL. (Listed on the September 1991, docket). PA was completed and submitted to the EPA in 1993. EPA has not yet scored the site. A Forest Service contractor scored the site at 31 using the PA/Hazard Ranking System methodologies. The EE/CA was completed in 1999 and negotiations initiated with the primary PRP.

NARRATIVE: This landfill was operated by Duncan Township between 1977 and 1980 under a special-use permit issued by the Forest Service. The landfill accepted approximately 390 tons per year of waste. The landfill contains mainly rural community waste from such sources as households, sawmills, logging operations, and farms. The landfill size is approximately 6 acres. Documentation does exist indicating that the landfill in the past has accepted 20 drums of friable asbestos and 200 to 400 cubic yards of gasoline-contaminantd soils. A groundwater monitoring well system was completed in September 1990. Four rounds of groundwater sampling were completed between 1990 and 1994, two by the Forest Service and two by the State of Michigan. Although several volatile organic compounds are present in the groundwater, none appear to be above the State of Michigan RCC. Some of the volatile organic compounds and their concentrations are trichlorofluoromethane (8 ppb), dichlorofluoromethane (3 ppb), and 1,1,1-trichloroethane (6 ppb). Although hazardous substances are at minimal levels, physical parameters such as specific conductance, alkalinity, chloride in water, dissolved sodium, and others indicate that leachate is being generated by the landfill and affecting the groundwater. An ecological risk assessment performed as part of the EE/CA identified manganese concentrations in the surface water at levels high enough to be harmful to certain aquatic invertebrates. Also copper levels in the wells located near the wetlands are high enough to be of a concern with regards to certain wetland plant species. There is no cap on the landfill; therefore, there are no barriers to limit leachate generation, which is estimated to be over 500,000 gal/yr. The EE/CA recommends capping the landfill, long

term monitoring and maintenance of the Site and administrative land use controls to restrict future use. The Action Memo is scheduled for approval by June 2000, with work scheduled to begin in August 2000.

FY1997– 99 WORK: In 1997, no work was performed.

In 1998, sampling from all the site wells was performed in July and October of 1998. Sample results indicated chromium, iron, manganese, and nickel exceed the MI RCC. Barium, copper, manganese, nickel and zinc exceeded either the screening criteria established by EPA or MI groundwater/surface water interface (GSI) values for ecological risks. CERCLA Sec. 104(e) letters were sent to PRPs and the Community Relations Plan was initiated.

In 1999, the human health and ecological risk assessments was completed. The risk assessment identified manganese as a potential human health concern through consumption of fish from Smith Creek. The ecological risk assessment concluded manganese and copper to be at concentrations of ecological concern. The Community Relations Plan was completed and implemented. A draft EE/CA was prepared, reviewed and finalized. An Affordability Analysis was completed on the primary PRP and negotiations initiated. The EE/CA and Administrative Record were announced for public review. A Design contract was awarded for the design of the landfill cap and other associated work. The cap will consist of a sand gas venting layer, geosynthetic clay layer, a flexible membrane liner, drainage layer, protective cover layer, topsoil and seeding and mulching. The MDEQ has reviewed and approved the design.

FACILITY: **Northwoods Landfill, Superior National Forest**
Ely, Minnesota

STATUS: Non-Docket. Non-NPL. Site was transferred to St. Louis County. No further work required by the Forest Service.

NARRATIVE: The landfill site was permitted to a private operator in 1972. It was operated as a private landfill until 1979, when St. Louis County assumed control and began operating it as a local county landfill. St. Louis County held all necessary Forest Service and Minnesota Pollution Control Agency permits, and provided for required

environmental site characterization and closure activities. Concerns over potential hazardous substance releases to the groundwater prompted closure of the landfill in 1990, and clay capping was completed that year. The landfill site remained in Forest Service ownership until 1991, when ownership was transferred to St. Louis County through a land-exchange agreement. The Minnesota Pollution Control Agency agreed to assume all cleanup responsibilities. Monitoring wells were installed at the site in 1981, 1986, and 1988, and subsurface evaluation reports were completed in 1984, 1988, and 1991.

Any remedial actions regarding site cleanup or mitigation measures will be done with State landfill cleanup funds. The State of Minnesota (through the Minnesota Pollution Control Agency) has assumed the PRP role. The State is responsible for groundwater monitoring. The Forest Service has transferred ownership of the monitoring wells to the State of Minnesota.

FACILITY: **15 Sanitary Landfills, Forestwide, Chippewa National Forest Cass Lake, Minnesota**

STATUS: Docket. Non-NPL. (Listed on the September 1991, docket). No further work is planned.

NARRATIVE: In the 1960's and early 1970's, the Chippewa National Forest allowed solid-waste disposal on National Forest System lands under special-use permits. In 1974, these sites were closed. The project includes 15 sanitary landfill sites that were under permit. The PAs for each site were submitted to the EPA in January 1993. Expanded PA work, consisting of subsurface exploration and monitoring well installation, was completed at 14 sites. No expanded PA work is scheduled for 1 of the 15 sites. This small, single-use site was used as a Girl Scout camp and has a low probability of contaminants.

FY 1996 WORK: Testing and evaluation for seven landfill sites was contracted in FY 1996, and included the following sites:

Balsam Landfill (4 wells)
Bowstring Landfill (5 wells)
Kinghurst Landfill (3 wells)
Salem Landfill (3 wells)
Tenstrike Landfill (4 wells)
Third River Landfill (3 wells)
Torrey Landfill (3 wells)

The first series of sampling and testing of these monitoring wells revealed no contaminants above the minimum allowable risk limit levels. Additional rounds of sampling and testing were conducted to verify the findings and to confirm that the seven sites do not adversely affect the groundwater.

FY1997-99 WORK: The Minnesota Pollution Control Agency agreed with the Forest Service that no further sampling was needed to address these sites. In FY 1999, the Forest Service properly abandoned the monitoring wells.

FACILITY: **St. Regis Penta Site, Chippewa National Forest**
Cass Lake, Minnesota

STATUS: The site is being evaluated for a possible NRDA action.

NARRATIVE: The St. Regis facility was a wood preserving plant that used creosote, pentachlorophenol and copper-chromium-arsenate. The facility operated from 1957-1985, and cleanup was initiated in 1986. The site, including three operable units, is a Superfund Site on the National Priorities List. Champion International is the responsible party for this site. NFS lands, managed by the Chippewa National Forest border the three operable units. Staff from the Chippewa National Forest is participating on the Biological Technical Assessment Group.

FY 1999 WORK: In 1999, the Leech Lake Tribe sought to initiate a Natural Resource Damage Action. The other Natural Resource Trustees besides Leech Lake Tribe include: Forest Service, DOI BIA and FWS, Minnesota Pollution Control Agency, and Minnesota Department of Natural Resources. At an initial meeting of the trustee representatives in March 1999, a timetable identifying possible actions and tentative dates was developed. This is potentially the first Natural Resource Damage Assessment case for the Eastern Region. In June 1999, a meeting between the natural resource trustees representatives, US-EPA Region V and Champion International was held in Minneapolis, Minnesota. The purposes of the meeting were for the Trustees to initiate contact with Champion and for all parties to dialogue on developing a working framework for future actions. In October 1999, a memorandum of understanding between all trustees and US EPA was signed. This concluded the actions in 1999. Since this time a face-to-face

meeting of the agency heads for the Natural Resource Trustees was held in Minneapolis in February 2000. The trustees were briefed on the site and then discussed options for proceeding with a possible NRDA case.

FACILITY: **Webb Site, Wayne National Forest**
Athens, Ohio

STATUS: Docket. Non-NPL. (Listed on the December 1989, docket). A PA was submitted in July 1991. Preliminary SI was submitted to the EPA and the Ohio EPA in April 1992. Further investigation and PRP involvement is needed.

NARRATIVE: This site results from a trespass operation occurring in the mid- to late 1980's. Polychlorinated biphenyls and heavy metals contaminated a site used as an unpermitted salvage operation for burning copper wire, transformers, and electrical equipment by an individual who is incarcerated for similar violations at another site. The site occupies both National Forest and private lands. The property boundaries and extent of contamination needs to be determined and the site needs to be evaluated in terms of risk to human health and the environment. PRP involvement is anticipated in any future actions.

The EPA requested additional testing. A recent Freedom of Information Act request indicates that the EPA has no files on this site. Only the Logan District Office of the Ohio EPA had a file on the site, and that consisted of two pollution incident reports.

FY 1997 WORK: A summary report on the current information on the site and an investigation was contracted for in FY 1996. This report was completed in FY 1997. It was determined that further investigation is needed. No further work has occurred since 1997.

FACILITY: **Paya Lake Landfill, Chequamegon-Nicolet National Forest**
Lakewood, Wisconsin

STATUS: Docket. Non-NPL. A PA was completed in February 1993. An expanded PA was done in 1995. Further site evaluation of groundwater was done in 1997 and 1998. Further site investigation is planned.

NARRATIVE: The landfill was operated, via permit from the Forest Service, for the disposal of municipal solid waste by the Township of Riverview from 1956 to 1974. The cleared site is about 1 acre in size, with disposal taking place on only about 0.5 acre. An expanded PA has been conducted per EPA direction. Investigation wells were installed in May of 1995. Sampling and testing of ground and surface water pathways followed the investigation well installations. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics, were sampled and tested for, as were Wisconsin Department of Natural Resources indicator parameters for groundwater. Results showed high concentrations of iron and manganese in exceedance of the WDNR enforcement standards (ES) but similar to the natural concentrations found in the upstream surface samples. Results were reported to the EPA and the WDNR in August 1995.

FY 1997 WORK: Based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, metals, and indicator parameters. After screening, results that exceeded state ES criteria included iron, manganese, and bis(2ethylhexyl)phthalate. The PAL was exceeded for antimony (estimated value) and arsenic. Results were reported to WDNR and EPA.

FY 1998 WORK: Due to results above state standards in previous sampling rounds, groundwater was sampled and tested for SVOCs, metals, and indicator parameters. Iron and manganese exceeded state ES criteria, but not at levels that would be considered a concern at this site. The PAL for antimony was exceeded but at an estimated value. Results were reported to WDNR and EPA.

FY 1999 WORK: No work in FY 1999. Further site investigation is planned.

FACILITY: **Lakewood Sanitary Landfill, Chequamegon-Nicolet National Forest**
Lakewood, Wisconsin

STATUS: Docket. Non-NPL. (Listed on the September 1991, docket). A PA was completed in 1993. An improved cap was constructed in 1996.

Ongoing sampling has taken place 2 to 4 times per year since 1992. Currently sampling takes place semiannually per the Wisconsin Department of Natural Resources approved monitoring plan. (In January 2002, a report analyzing groundwater data is required.)

NARRATIVE: This landfill was operated for the disposal of residential solid waste by the townships of Lakewood, Riverview, and Doty and the Forest Service under a special-use permit from about 1975 to 1987. The site is about 6 acres in size. In 1991, preliminary work was done, including installing observation wells and performing seismic and resistivity tests. This was done to determine the locations, depths, and number of investigation wells required. An investigation well contract was awarded in March 1992. Preliminary sampling showed some volatile organic compounds. No formal response to the PA submittal has been received from either the EPA or the Wisconsin Department of Natural Resources (WDNR). However, in October 1992, the WDNR requested that a groundwater-monitoring plan be developed for the site. This was done, and approval was received in July 1992. Per the plan, the Forest Service conducted quarterly sampling and testing of groundwater based on the monitoring plan approval. In September 1995, a groundwater monitoring plan modification was issued by the WDNR, and sampling was changed to semiannually based on the plan modification. In addition, the WDNR required the Forest Service to submit a plan to cap the landfill (closure plan). This plan was submitted in October 1995 and approved by the WDNR. Currently, semiannual sampling is being conducted as required by the WDNR (for at least 5 years after cap improvements were completed).

Past groundwater sampling results have shown the following WDNR enforcement standard exceedances: vinyl chloride, chloromethane, bromodichloromethane (1 well, 1 round only), methylene chloride, iron, manganese, zinc, and lead (1 well, 1 round only). PAL exceedances include benzene, tetrachloroethylene, trichloroethylene, arsenic, barium, fluoride, and nitrogen (nitrate+nitrite). There were no SVOCs or pesticides/PCB exceedances. (Some of these exceedances were not previously listed because some WDNR criteria have been lowered since the time of sample collection.)

FY 1996 WORK: The landfill was capped in 1996, utilizing FS funds and township funds. The improved cap consisted of a 24-inch silt soil cap, topsoil, seed & mulch.

FY 1997 WORK: Semi-annual sampling & testing of groundwater; this includes testing for iron, chloride, and indicator parameters semi-annually in addition to volatile organic compounds (VOCs) annually.

FY 1998 WORK: Semi-annual sampling & testing of groundwater (same as in FY 1997).

FY 1999 WORK: Semi-annual sampling & testing of groundwater (same as in FY 1997).

FACILITY: **Island Lake Landfill, Chequamegon-Nicolet National Forest Lakewood, Wisconsin**

STATUS: Docket. Non-NPL. (Listed on the April 1995, docket). A PA was completed in March 1993. An expanded PA was done in 1995. Further site evaluation of groundwater was done in 1997 and 1998. Further site investigation is planned.

NARRATIVE: The landfill was operated for the disposal of municipal solid waste by the townships of Riverview and Doty from 1966 to 1973. Waste material is estimated to cover approximately 0.4 acre of the site. An expanded PA was conducted per EPA direction. Three investigation wells were installed in May 1995. Sampling and testing of groundwater and surface water pathways followed the investigation-well installations. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics, were tested for, as were Wisconsin Department of Natural Resources (WDNR) indicator parameters for groundwater. Concentrations of iron and manganese exceeded WDNR enforcement standards (ES); however, these often occur naturally in groundwater. Concentrations of analyzed inorganics and indicator parameters were below the WDNR preventive action limits (PAL) or were not detected (except for antimony). No concentrations of VOCs, semivolatile organic compounds (SVOCs), or PCBs/pesticides were detected. Surface water results showed high iron levels directly downstream of the landfill. Concentrations of analyzed inorganics, metals, and indicator parameters were similar to background levels or not detected. Carbon disulfide was the only detected VOC in surface water samples, and this can occur naturally. No concentrations of SVOCs or PCBs/pesticides were detected in

surface water samples. Results were reported to the EPA and the WDNR in August 1995.

FY 1997 WORK: Based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, metals, and indicator parameters. After screening, results that exceeded state ES criteria included iron, manganese, and bis(2ethylhexyl)phthalate. Results were reported to WDNR and EPA.

FY 1998 WORK: Due to results above state standards in previous sampling rounds, groundwater was sampled and tested for SVOCs, metals, and indicator parameters. Iron and manganese exceeded state ES criteria, but not at levels that would be considered a concern at this site. Results were reported to WDNR and EPA.

FY 1999 WORK: No work in FY 1999. Further site investigation is planned.

FACILITY: **Phelps Landfill, Chequamegon-Nicolet National Forest**
Phelps, Wisconsin

STATUS: Docket. Non-NPL. (Listed on the April 1995, docket). A PA was completed in 1993. An expanded PA was done in 1994. Further site evaluation of groundwater was done in 1996, 1997, and 1998. Further investigation is planned.

NARRATIVE: This landfill was operated for the disposal of municipal solid waste by the township of Phelps under a special-use permit from 1946 to 1974. The site is estimated to be less than an acre in size. An expanded PA was conducted per EPA direction. Seven investigation wells were placed around the site in June 1994. That year, groundwater sampling and testing was done for volatile organic compounds (VOCs), inorganics, and indicator parameters. Results showed Wisconsin Department of Natural Resources (WDNR) preventive action limit (PAL) exceedances for lead, nitrogen (nitrate+nitrite), and sulfate. Iron and manganese exceeded WDNR enforcement standard (ES) criteria, which is probably due to naturally high concentrations. The results were submitted to the EPA and the WDNR in December 1994.

The initial sampling prompted further sampling and testing in 1996. A total of 150 target compounds, comprised of VOCs, semivolatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics, were tested for, as were WDNR indicator parameters groundwater. After screening of results, WDNR enforcement standards were exceeded for manganese and sulfate. Preventive action limit exceedances included bis(2-ethylhexyl)phthalate, beryllium, lead, and mercury, in one or more of the downgradient monitoring wells. Results were submitted to the EPA and the WDNR in November 1996.

FY 1997 WORK: Based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, metals, and indicator parameters. After screening, results that exceeded state ES criteria included manganese. Results exceeding state PAL criteria included methylene chloride, antimony, arsenic, and lead (but all at estimated values). Results were reported to WDNR and EPA.

FY 1998 WORK: Due to results above state standards in previous sampling rounds, groundwater was sampled and tested for metals and indicator parameters. Iron exceeded state ES criteria, but not at a level that would be considered a concern at this site. PAL exceedances occurred for chromium, manganese, and nickel. (Note: due to very low water level, only three of seven wells were capable of being sampled.) Results were reported to WDNR and EPA.

FY 1999 WORK: No work in FY 1999. Further site investigation is planned.

FACILITY: **Crooked Lake Landfill, Chequamegon-Nicolet National Forest Crooked Lake, Wisconsin**

STATUS: Docket. Non-NPL. (Listed on the April 1995, docket). A PA was completed in April 1993. An expanded PA was conducted in 1995. Further site evaluation of groundwater was done in 1997 and 1998. Further site investigation is planned.

NARRATIVE: This landfill was operated for the disposal of municipal solid waste by the townships of Riverview and Crooked Lake from 1949 to 1975. The site is less than an acre in size. An expanded PA was conducted per EPA direction. Four investigation wells were

installed in February 1995. Sampling and testing of the groundwater pathway was accomplished in June 1995. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics, were tested for, as were Wisconsin Department of Natural Resources (WDNR) indicator parameters for groundwater. The detected concentrations of analyzed inorganics and indicator parameters were below the groundwater quality standards. No concentrations of VOCs, SVOCs, or pesticides/PCBs were detected in the groundwater samples from the four wells. Test results were sent to the EPA and the WDNR in September 1995.

FY 1997 WORK: Based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, metals, and indicator parameters. After screening, results that exceeded state enforcement standard criteria included antimony. Arsenic exceeded the state preventive action limit. Results were reported to WDNR and EPA.

FY 1998 WORK: Due to results above state standards in previous sampling rounds, groundwater was sampled and tested for metals and indicator parameters. No state groundwater standards were exceeded. Results were reported to WDNR and EPA.

FY 1999 WORK: No work in FY 1999. Further site investigation is planned.

FACILITY: **Pine Lake Landfill, Chequamegon-Nicolet National Forest Hiles, Wisconsin**

STATUS: Docket. Non-NPL. A PA was completed in June 1993. An expanded PA was done in 1995. Further site evaluation of groundwater was done in 1997 and 1998. Further site investigation is planned.

NARRATIVE: This landfill was operated for the disposal of municipal solid waste by the township of Hiles and the Forest Service under a special-use permit from 1962 until 1978. The site is about an acre in size, with disposal taking place on about 0.5 acre. An expanded PA was conducted per EPA direction. Investigation-wells were installed in May 1995. Sampling and testing of groundwater, surface water, and

sediment pathways immediately followed the investigation-well installations. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics, were tested for, as were Wisconsin Department of Natural Resources (WDNR) indicator parameters for groundwater. After screening, results indicated primarily low levels of inorganics in the groundwater, surface water, and sediments. Groundwater: No VOCs or pesticides/PCBs were detected in the samples. One SVOC, bis(2-ethylhexyl)phthalate, was detected above the WDNR preventative action limit (PAL) but at an estimated value. Groundwater inorganics exceeded the enforcement standard (ES) for iron and manganese and the PAL for arsenic. Surface water: No VOCs, SVOC, or pesticides/PCBs were detected, in the surface water. Some inorganics were detected, but background levels were not established. Sediment: No pesticides/PCBs were detected in the sediment. Five VOCs were detected in the sediment (acetone, methylene chloride, carbon disulfide, toluene, and 2-butanone); however, all but carbon disulfide are common laboratory contaminants. Two SVOCs, 4-methylphenol and phenol (estimated value), were detected in the sediment. Some metals were detected in the sediment. Results were reported to the EPA and the WDNR in August 1995.

FY 1997 WORK: Based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, metals, and indicator parameters. After screening, results that exceeded state enforcement standard criteria included iron and manganese. Benzene exceeded the state PAL in one well. Results were reported to WDNR and EPA.

FY 1998 WORK: Due to results above state standards in previous sampling rounds, groundwater was sampled and tested for VOCs, metals and indicator parameters. Only iron and manganese exceeded state groundwater enforcement standards, and there were no PAL exceedances. Results were reported to WDNR and EPA.

FY 1999 WORK: No work in FY 1999. Further site investigation is planned.

FACILITY: **Silver Lake Landfill, Chequamegon-Nicolet National Forest**

Laona, Wisconsin

STATUS: Docket. Non-NPL. (Listed on the April 1995, docket). A PA was completed in June 1993. An expanded PA was done in 1995. Further site evaluation of groundwater was done in 1997 and 1998. Further site investigation is planned.

NARRATIVE: This landfill was operated for the disposal of municipal solid waste by the township of Laona from 1967 until 1974. The site is about 2 acres in size. An expanded PA was conducted to obtain factual data to substantiate or refute the EPA speculation regarding the groundwater pathway. Investigation wells were installed in May 1995. Sampling and testing of the groundwater pathway immediately followed the investigation-well installations. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and metals, were tested for, as were Wisconsin Department of Natural Resources (WDNR) indicator parameters for groundwater. No VOCs, SVOCs, or pesticides/PCBs that could not be attributed to possible laboratory contamination were detected in any of the wells. (Although not screening out, bis(2-ethylhexyl) phthalate was detected at an estimated quantity). Metals detected over the state enforcement standards include iron and manganese, but not at levels considered to be harmful to human health. Metals detected over state preventive action limits include chromium, lead, and nickel. In addition, the general chemistry parameters are lower than that of typical sanitary landfill leachate. Results were reported to the EPA and the WDNR in August 1995.

FY 1997 WORK: Based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, metals, and indicator parameters. After screening, results that exceeded state enforcement standard criteria included only iron and manganese, and there were no PAL exceedances. The level of iron in one of the wells exceeded that which is commonly found in groundwater and could be considered a potential health risk. Results were reported to WDNR and EPA.

FY 1998 WORK: Due to results above state standards in previous sampling rounds, groundwater was sampled and tested for metals and indicator parameters. Only iron and manganese exceeded state groundwater

enforcement standards, and there were no PAL exceedances. The level of iron in one of the wells exceeded that which is commonly found in groundwater and could be considered a potential health risk. Results were reported to WDNR and EPA.

FY 1999 WORK: No work in FY 1999. Further site investigation is planned.

FACILITY: **Tipler Landfill, Chequamegon-Nicolet National Forest**
Tipler, Wisconsin

STATUS: Docket. Non-NPL. A PA was completed in December 1993. An expanded PA was done in 1995. Further site evaluation of groundwater was done in 1997. No further investigation is planned.

NARRATIVE: This landfill was operated for the disposal of municipal solid waste by the township of Tipler under a special-use permit from 1959 until 1974. The site is about an acre in size, with disposal taking place on about 0.5 acre. An expanded PA was conducted to obtain factual data to substantiate or refute the EPA speculation regarding the groundwater pathway. Four investigation wells were installed in May 1995. Sampling and testing of the groundwater pathway immediately followed the investigation-well installations. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics, were tested for, as were Wisconsin Department of Natural Resources (WDNR) indicator parameters for groundwater. Results showed no concentrations of VOCs, SVOCs, or pesticides/PCBs detected from the wells. Only manganese exceeded the state enforcement standard and antimony exceeded the state preventive action limit. Results were reported to the EPA and the Wisconsin Department of Natural Resources in September 1995.

FY 1997 WORK: Based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, metals, and indicator parameters. After screening, results that exceeded state enforcement standard criteria included only antimony (at an estimated level), and there were no PAL exceedances. Results were reported to WDNR and EPA. It is recommended the site be closed.

FY 1998 WORK: No further site investigation is planned.

FACILITY: **Butternut Lake Landfill, Chequamegon-Nicolet National Forest Eagle River, Wisconsin**

STATUS: Docket. Non-NPL. (Listed on the April 11, 1995, docket). A PA was completed in May 1993. An expanded PA was done in 1995. Further site evaluation of groundwater was done in 1997 and 1998. Further site investigation is planned.

NARRATIVE: This landfill was operated for the disposal of municipal solid waste for the Butternut Lake area under a special-use permit from 1960 until 1974. The site is estimated to be less than one acre in size. An expanded PA was conducted to obtain factual data to substantiate or refute the EPA speculation regarding the groundwater pathway. Investigation wells were installed in May 1995. Sampling and testing of the groundwater pathway immediately followed the investigation-well installations. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics, were tested for, as were Wisconsin Department of Natural Resources (WDNR) indicator parameters for groundwater. Results showed no concentrations of volatile organic compounds, semivolatile organic compounds, or pesticides/PCBs. Detected concentrations of analyzed metals, indicator parameters, and public health and welfare parameters were within the normal range of concentration. Only manganese exceeded the state enforcement standard, and antimony exceeded the state preventive action limit. No contamination was detected in the groundwater samples from the site. Results were reported to the EPA and the WDNR in September 1995.

FY 1997 WORK: Based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, metals, and indicator parameters. After screening, results showed no state enforcement standard criteria exceeded, and only manganese exceeded the preventive action limit. Results were reported to WDNR and EPA.

FY 1998 WORK: Due to results above state standards in previous sampling rounds, groundwater was sampled and tested for metals and indicator

parameters. There were no state enforcement standard exceecances. Exceedances of the state groundwater preventive action limits occurred for manganese and cadmium (estimated level) – both only slightly above the PAL. Results were reported to WDNR and EPA.

FY 1999 WORK: No work in FY 1999. Further site investigation is planned.

FACILITY: **Binder Lake Landfill, Chequamegon-Nicolet National Forest Lakewood, Wisconsin**

STATUS: Docket. Non-NPL. (Listed on the April 1995 docket). A PA was completed in April 1993. An expanded PA was done in 1995. Further site evaluation of groundwater was done in 1997 and 1998. Further site investigation is planned.

NARRATIVE: The landfill was operated for the disposal of municipal solid waste by the township of Lakewood, under a Forest Service special-use permit, from 1949 to 1975. The site is just over an acre in size. An expanded PA was conducted to obtain factual data to substantiate or refute the EPA speculation regarding the groundwater pathway. Three investigative wells were placed along the perimeter of the site in October 1995. Sampling and testing was done immediately following the well installations. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and metals, were sampled for and tested. Sampling and testing was also done for Wisconsin Department of Natural Resources (WDNR) indicator parameters for groundwater. After screening, the results show that three metals (iron, lead, and manganese) are present at concentrations that exceed the WDNR enforcement standards (ES). Arsenic, beryllium (estimated value), chromium, and nickel were identified at concentrations exceeding the preventive action limits (PAL). No groundwater samples exceeded the preventive action limit or enforcement standards for VOCs or pesticides/PCBS during the sampling round. Results of the analyses were reported to the EPA and the WDNR in April 1996.

FY 1996 WORK: Completed installation and sampling and analysis of investigative wells.

FY 1997 WORK: Based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, metals, and indicator parameters. After screening, results showed state enforcement standard criteria exceeded for iron and manganese. There were no PAL exceedances. Results were reported to WDNR and EPA.

FY 1998 WORK: Due to results above state standards in previous sampling rounds, groundwater was sampled and tested for metals and indicator parameters. An exceedance of state groundwater enforcement standard criteria occurred for only manganese. There were no PAL exceedances. Results were reported to WDNR and EPA.

FY 1999 WORK: No work in FY 1999. Further site investigation is planned.

FACILITY: **County Highway T Landfill, Chequamegon-Nicolet National Forest**
Lakewood, Wisconsin

STATUS: Docket. Non-NPL. (Listed on the April 1995, docket). A PA was completed in January 1993. An expanded PA was done in 1995. Further site evaluation of groundwater was done in 1997 and 1998. Further site investigation is planned.

NARRATIVE: The landfill was operated for the disposal of municipal solid waste by the township of Doty, under a Forest Service special- use permit, from 1956 to 1975. The site is estimated to be about an acre in size. An expanded PA was conducted to obtain factual data to substantiate or refute the EPA speculation regarding the groundwater pathway. Three investigative wells were placed along the perimeter of the site in October 1995. Sampling and testing was done immediately following the well installations. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics, were tested for, as were Wisconsin Department of Natural Resources (WDNR) indicator parameters for groundwater. Results showed the WDNR enforcement standard (ES) was exceeded for iron and manganese in all wells and lead in one well. Results showed WDNR preventive action limits (PAL) were exceeded for lead (in remaining wells), arsenic, beryllium (estimated value), chromium,

mercury, and nickel (estimated value). No samples exceeded state groundwater standards for VOCs or pesticides/ PCBs. Results of the analysis were reported to the EPA and the WDNR in April 1996.

FY 1996 WORK: Completed installation and sampling and analysis of investigative wells noted above.

FY 1997 WORK: Based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, metals, and indicator parameters. After screening, results showed exceedances of state enforcement standard criteria for iron, manganese, and bis(2-ethylexyl)phthalate. Results were reported to WDNR and EPA.

FY 1998 WORK: Due to results above state standards in previous sampling rounds, groundwater was sampled and tested for SVOCs, metals and indicator parameters. State enforcement standards were exceeded for only iron and manganese. There were no PAL exceedances. Results were reported to WDNR and EPA.

FY 1999 WORK: No work in FY 1999. Further site investigation is planned.

FACILITY: **Roberts Lake Landfill, Chequamegon-Nicolet National Forest Wabeno, Wisconsin**

STATUS: Docket. Non-NPL. (Listed on the April 1995, docket). A PA was completed in May 1993. An expanded PA was done in 1995. Further site evaluation of groundwater was done in 1997 and 1998. Further site investigation is planned.

NARRATIVE: The landfill was operated for the disposal of municipal solid waste by the township of Freedom, under a Forest Service special-use permit, from 1954 to 1974. An expanded PA was conducted to obtain factual data to substantiate or refute the EPA speculation regarding the groundwater pathway. Three investigative wells were placed along the perimeter of the site in October 1995. Sampling and testing was done immediately following the well installations. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and metals, were

tested for, as were Wisconsin Department of Natural Resources (WDNR) indicator parameters for groundwater. Results indicate four metals (chromium, iron, lead, and manganese) are present at concentrations exceeding WDNR enforcement standards (ES). Beryllium and thallium also exceeded ES levels but were detected at estimated values. Metals exceeding preventive action limits (PAL) include arsenic, barium, copper, and nickel. No samples exceeded state groundwater PAL or ES for VOCs or pesticides/PCBs. Results of the analysis were reported to the EPA and the WDNR in April 1996.

FY 1996 WORK: Completed installation and sampling and analysis of investigative wells noted above.

FY 1997 WORK: Based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, metals, and indicator parameters. After screening, results showed no exceedances of state ES criteria. PAL exceedances included only nitrogen (both as nitrate and as nitrite+nitrate). Results were reported to WDNR and EPA.

FY 1998 WORK: Due to results above state standards in previous sampling rounds, groundwater was sampled and tested for metals and indicator parameters. After screening, results showed no exceedances of state ES criteria. PAL exceedances included only nitrogen (both as nitrate and as nitrite+nitrate). Results were reported to WDNR and EPA.

FY 1999 WORK: No work in FY 1999. Further site investigation is planned.

FACILITY: **Alvin East Landfill, Chequamegon-Nicolet National Forest Alvin, Wisconsin**

STATUS: Docket. Non-NPL. (Listed on the April 11, 1995, docket). A PA was completed in December 1993. An expanded PA was done in 1995. Further site evaluation of groundwater was done in 1997 and 1998. Further site investigation is planned.

NARRATIVE: The landfill was operated for the disposal of municipal solid waste by the township of Alvin, under a Forest Service special-use permit, from 1966 to 1975. The site is about an acre in size. An expanded

PA was conducted to obtain factual data to substantiate or refute the EPA speculation regarding the groundwater pathway. Three investigative wells were placed along the perimeter of the site in October 1995. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics, were tested for, as were for Wisconsin Department of Natural Resources (WDNR) indicator parameters for groundwater. Results showed little or no indication that the landfill has affected the concentrations of chemicals in the groundwater. There was an enforcement standard (ES) exceedance of antimony but in the upgradient well, and a slight exceedance of the ES for cis-1,3-dichloropropene was detected at an estimated value. Preventive action limit (PAL) exceedances occurred for antimony (in the remaining wells), manganese, and mercury (but in the upgradient well only). Results of the sampling and testing were reported to the EPA and the WDNR in June 1996.

FY 1996 WORK: Completed installation and sampling and analysis of investigative wells noted above.

FY 1997 WORK: Based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, metals, and indicator parameters. After screening, results showed no exceedances of state ES criteria. A PAL exceedances occurred for only lead (but in the upgradient well at an estimated level). Results were reported to WDNR and EPA.

FY 1998 WORK: Due to results above state standards in previous sampling rounds, groundwater was sampled and tested for metals and indicator parameters. After screening, results showed no exceedances of state ES or PAL criteria. Results were reported to WDNR and EPA.

FY 1999 WORK: No work in FY 1999. Further site investigation is planned.

FACILITY: **Newald Landfill Site, Chequamegon-Nicolet National Forest Newald, Wisconsin**

STATUS: Docket. Non-NPL. (Listed on the April 1995, docket). A PA was submitted to the EPA and the Wisconsin Department of Natural Resources in December 1993. An expanded PA was done in 1995.

No further site evaluation of groundwater was done in 1997. Further site investigation is planned.

NARRATIVE: The landfill was operated for the disposal of municipal solid waste by the township of Ross, under a Forest Service special-use permit, from 1960 to 1972. The site is estimated to be less than an acre in size. An expanded PA was conducted to obtain factual data to substantiate or refute the EPA speculation regarding the groundwater pathway. Three investigative wells were placed along the perimeter of the site in October 1995. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics, were tested for, as were Wisconsin Department of Natural Resources (WDNR) indicator parameters for groundwater. Results showed no indication that the landfill has affected the concentrations of chemicals in groundwater. Iron, manganese, and antimony exceeded state enforcement standards. Results of the analysis were reported to the EPA and the WDNR in June 1996.

FY 1996 WORK: Completed installation and sampling and analysis of investigative wells noted above.

FY 1997 WORK: Based on WDNR requirements for more than one round of groundwater testing at landfill sites, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, metals, and indicator parameters. After screening, results showed state ES criteria exceeded for only iron and manganese. Results were reported to WDNR and EPA.

FY 1998 WORK: No further site investigation is planned.

FACILITY: **Laona (Blackwell) Landfill, Chequamegon-Nicolet National Forest, Blackwell, Wisconsin**

STATUS: Docket. Non-NPL. (Listed on the September 1991, docket). A PA was submitted to the EPA and the Wisconsin Department of Natural Resources in December 1992. Further site evaluation has been done in FY 1996, 1997, and 1998.

NARRATIVE: The landfill was operated for the disposal of residential solid waste by the towns of Blackwell and Laona and the Forest Service, under

a Forest Service special-use permit, from the 1974 to 1983. The site is approximately three acres in size. Eight monitoring wells were placed around the land in June 1991. Water sampling was started in August 1991. Based on the results of the initial samples, more extensive testing was done in October 1991. The results of these tests were included in the PA report that was submitted to the regulatory agencies. In FY 1996, HWHW funding was allocated for installing a new control well and expanded testing of all site investigative wells. A total of 150 target compounds, comprised of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides/polychlorinated biphenyls (PCBs), and inorganics, were tested for, as were Wisconsin Department of Natural Resources (WDNR) indicator parameters for groundwater. After screening, results showed VOCs, including methylene chloride and vinyl chloride (estimated value) exceeding WDNR and enforcement standards (ES). Those exceeding only the preventive action limit (PAL) include tetrachloroethane, 1,2-dichloroethane, and benzene. Three semivolatile organic compounds were detected but disregarded as potential laboratory contamination based on EPA assessment guidance. For pesticides/PCBs, endosulfan sulfate was detected, but this parameter has no preventive action limit or enforcement standard value. Metals detected above the enforcement standards include arsenic, thallium, iron, and manganese. (Iron and manganese levels detected are high enough that they may be of concern). However, based on evaluation of the 1996 results, there is not a clearly established background monitoring well, and it was recommended that an additional well be placed upgradient. The results of the 1996 sampling were submitted to the EPA and the WDNR in December 1996. No formal response has been received from either agency.

FY 1996 WORK: Completed installation of new control wells and expanded testing of all site wells.

FY 1997 WORK: Due to results above state standards in previous sampling rounds, additional groundwater sampling was done at this site. Parameters tested included VOCs, SVOCs, pesticides/PCBs, metals, and indicator parameters. After screening, results showed state ES criteria exceeded for vinyl chloride, iron, and manganese. PAL criteria were exceeded for benzene, 1,2-dichloroethane, methylene chloride, tetrachloroethene, trichloroethene, and arsenic. Results were reported to WDNR and EPA.

FY 1998 WORK: Due to results above state standards in previous sampling rounds, groundwater was sampled and tested for VOCs, SVOCs, metals and indicator parameters. After screening, results showed state ES criteria exceeded for 1,2-dichloroethane, methylene chloride, vinyl chloride, arsenic, iron, and manganese. PAL criteria were exceeded for benzene, tetrachloroethene, trichloroethene, antimony, and barium. Results were reported to WDNR and EPA.

FY 1999 WORK: No work in FY 1999. An EE/CA is planned for FY 2001.

FACILITY: **Dolly Sods Unexploded Ordinance (UXO), Monongahela National Forest, Elkins, West Virginia**

STATUS: Non-Docket. Non-NPL. A monitoring plan has been developed to formalize the procedure for disposal of any UXO discovered in the future.

NARRATIVE: This site results from World War II artillery training. Unexploded ordnance exists in the Dolly Sods Wilderness and an adjoining area called Dolly Sods North. The Department of Defense, through the Army Corps of Engineers, conducted a remediation action.

FY 97-99 WORK: Coordination with Army on WWII artillery training site-Remediation field work was completed in 1998. The Army Corps of Engineers' contractor completed the associated reports in FY 1999. A monitoring plan is now in place to formalize the procedure for disposal of any Unexploded Ordinance discovered in the future.

U. S. FOREST SERVICE
REGION 10

FACILITY: **Coghlan Island, Sitka Office, Tongass National Forest, Auke Bay, Alaska**

STATUS: Docket. Non-NPL. (Listed on the September 27, 1991 docket). A PA has been sent to the EPA. The EPA issued a No Further Response Action Planned finding for this facility on July 9, 1993.

NARRATIVE: This site is on National Forest System land but is operated by the Federal Aviation Administration under a special-use permit for navigation aids to aircraft. The FAA has submitted a PA on this site to the EPA. The PA identified three areas needing further investigation to determine the type and extent of soil contamination detected. This was done, and the EPA issued a No Further Response Action Planned finding on July 9, 1993. The FAA has given the cleanup a low priority based upon the findings of the investigations. In FY 1997, two ASTs and associated pipeline were removed. Petroleum-contaminated soil was excavated and shipped to Juneau for disposal. One new AST was installed.

FY 97-99 WORK: A Release Investigation Report was conducted on the site to determine if all the contaminated soil associated with the tank replacement was remediated. This final report is currently under review by the FAA.

FACILITY: **Duncan Canal Indian Point Federal Aviation Administration Station, Petersburg Office, Tongass National Forest, Kupreanof Island, Alaska**

STATUS: Docket. Non-NPL. (Listed on the September 1991 docket). A PA has been sent to the EPA. The EPA issued a No Further Response Action Planned finding for this facility on May 20, 1993.

NARRATIVE: This site is on National Forest System land but is a site formerly operated by the FAA under a special-use permit for navigation aides to aircraft. The FAA has submitted a PA on this site to the EPA. The PA identified several locations needing further investigation to determine the type and extent of soil and surface water

contamination. This was done and the EPA issued a No Further Response Action Planned finding on May 20, 1993. Contamination at the site consists primarily of petroleum products. The volume of contamination is estimated to be 50 CY. In 1997, the site was gridded and sampled and contaminated soil was fertilized and rototilled as a means of in-situ bioremediation.

FY 97-99 WORK: The site was re-sampled in 1998, with minimal change in contamination levels. The FAA plans to re-sample in FY 2001. The FAA has given the cleanup a low priority based upon findings of the investigations.

FACILITY: **Level Island VORTAC Site, Petersburg Office, Tongass National Forest, Big Level Island, Alaska**

STATUS: Docket. Non-NPL. (Listed on the September 1991 docket). A PA has been sent to the EPA. The EPA issued a No Further Response Action Planned finding for this facility on July 19, 1996.

NARRATIVE: This site is on National Forest System land but is operated by the FAA under a special-use permit for navigation aids to aircraft. The FAA has submitted a PA on this site to the EPA. The PA identified several locations needing further investigation to determine the type and extent of soil and surface water contamination. The EPA requested an Expanded Site Investigation (SI). An Expanded SI Work Plan/Interim Cleanup Plan was completed and approved by the EPA and the Alaska Department of Environmental Conservation and was submitted to the Forest Service in April 1994. Interim cleanup and tank removal work was completed in FY 1995. In FY 1997, the FAA planed to design an action to remediate petroleum-contaminated soil resulting from a leaking underground tank for implementation in FY 1998.

FY 97-99 WORK: No actions were taken this fiscal year. The FAA plans to do additional sampling on the stockpiled contaminated soil in anticipation of onsite thermal remediation.

FACILITY: **Thorne Bay Landfills, Ketchikan Area, Tongass National Forest, Thorne Bay, Alaska**

STATUS: Docket. Non-NPL. (Listed on the February 1993 docket). A PA and Site Inspection have been sent to the EPA. An Action Memo declaring the need for a time-critical removal was signed in June 1996. The Forest Service negotiated with a PRP to implement the time-critical removal.

NARRATIVE: This site is a closed landfill located on National Forest System lands. A timber sale operator formerly operated the landfill and the City of Thorne Bay subsequently operated it. The Forest Service submitted a PA on this site to the EPA. The PA identified several locations needing further investigation to determine the type and extent of soil and surface water contamination. The EPA requested an Expanded SI. The EPA approved an Expanded SI Work Plan in November 1994 and fieldwork was completed in July 1995. Upon completion of the Expanded SI, it was determined that a time-critical removal action was necessary and an Action Memo was signed in June 1996. High levels of arsenic, iron, and zinc were detected in sediments and soils. Analytical date indicates that arsenic, iron, and polychlorinated biphenyls may be impacting surface waters, wetlands, and the Thorne Bay estuary. A Work Plan and design were prepared to implement the presumptive remedy of installing an impermeable membrane over a portion of the site. The site was secured and a closure order was issued. A PRP, Ketchikan Pulp Company, entered into a CERCLA Sec. 104 AOC with the Forest Service to perform the time-critical removal. Fieldwork was completed 1998.

FY 97-99 WORK: Time-critical removal was completed. A long-term water-monitoring plan is being negotiated with PRP.

FACILITY: **Granite Mine, Chugach National Forest, 22 miles NE of Whittier, Alaska**

STATUS: Non-Docket. Non-NPL.

NARRATIVE: Observed at the site are releases of hazardous substances in tailings and sediments. These include antimony, arsenic, cadmium, copper, iron, lead, mercury, and zinc in the tailings impoundment and tidal lagoon at greater than three times background concentrations. Requests for information and inquiry into willingness to participate in a cleanup have been sent to PRPs. Removal PA/Sampling Inspection completed in FY 1996 and submitted to the EPA.

FY 1998 WORK: Ongoing work with PRP Requests for Information and responses. EE/CA was initiated in FY 1999 and will be completed in FY 2000.